

In search of SIM

Network management vendors are jockeying for position in a race to offer security information management capabilities. **PAGE 8.**

Telecom standardization

Kevin Lopez, national telecom director for accounting firm Grant Thornton, describes his company's IP PBX rollout. **PAGE 43.**



Notes client revamp

IBM/Lotus is overhauling its Notes client to give users a more functional, integrated package. **PAGE 23.**

NETWORKWORLD

The leader in network knowledge ■ www.networkworld.com

July 11, 2005 ■ Volume 22, Number 27

④ WiderNet

This net screams



Roller coaster packs more technology than some data centers — not that riders care.

BY ANITA TAFF-RICE

In the time it takes to finish reading this sentence, you and 17 others could have rocketed from 0 to 120 miles per hour, turned at a 90-degree angle and headed straight to the top of a 42-story building, plummeted in a free fall, whipped through a 270-degree corkscrew and traveled almost one-half of a mile.

If you were riding on the Top Thrill Dragster, that is.

The Dragster, which overlooks Lake Erie at the

See Roller coaster, page 16

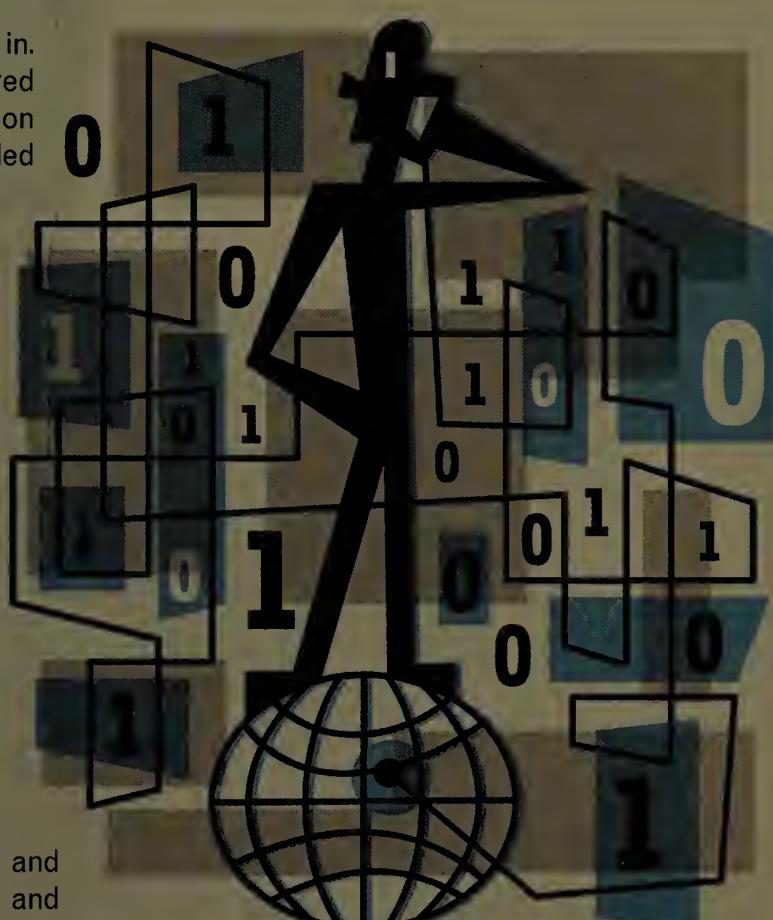
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200

The ROI of VoIP

A fresh look at the true costs and savings of a voice-over-IP rollout.

The real-world numbers are in. Nemertes Research surveyed 65 enterprise customers on their VoIP rollouts and compiled the results into a practical step-by-step guide to figuring the ROI of a VoIP project. This key planning tool contains data on what your peers are spending for pre-planning, capital items and operations. And don't forget that you need to set aside money for VoIP management tools and staff training.

On the savings side of the ledger, the research provides a dollars-and-cents framework for calculating cost savings in areas such as international long distance and local loop, plus moves, adds and changes. And the savings don't stop there — the research turned up ways to figure the cost savings per minute on a switch to audioconferencing over the IP network. **Page 36.**



GREG MALBY

Microsoft encroaching on storage territories

BY DENI CONNOR

Microsoft might not be the first company that comes to mind when you think of network storage, but the company's announcement last week that it soon will ship continuous data-protection software put storage customers and vendors on notice that it is getting increasingly serious about this market.

For customers, Microsoft's System Center Data Protection Manager (DPM) widens the selection in a new but fast-growing market for products that continuously back up storage and let users retrieve files they might have lost.

For storage management vendors, Microsoft's offering is a sign that the company is no longer just developing products that complement theirs. Microsoft entered the storage market a few years back, mainly by marketing tools that companies used to build storage systems for Windows networks. Now Microsoft is delivering

See Microsoft, page 14

■ Read more about what Microsoft has in store. **Page 10.**

Many minds, one goal: Curb bad traffic

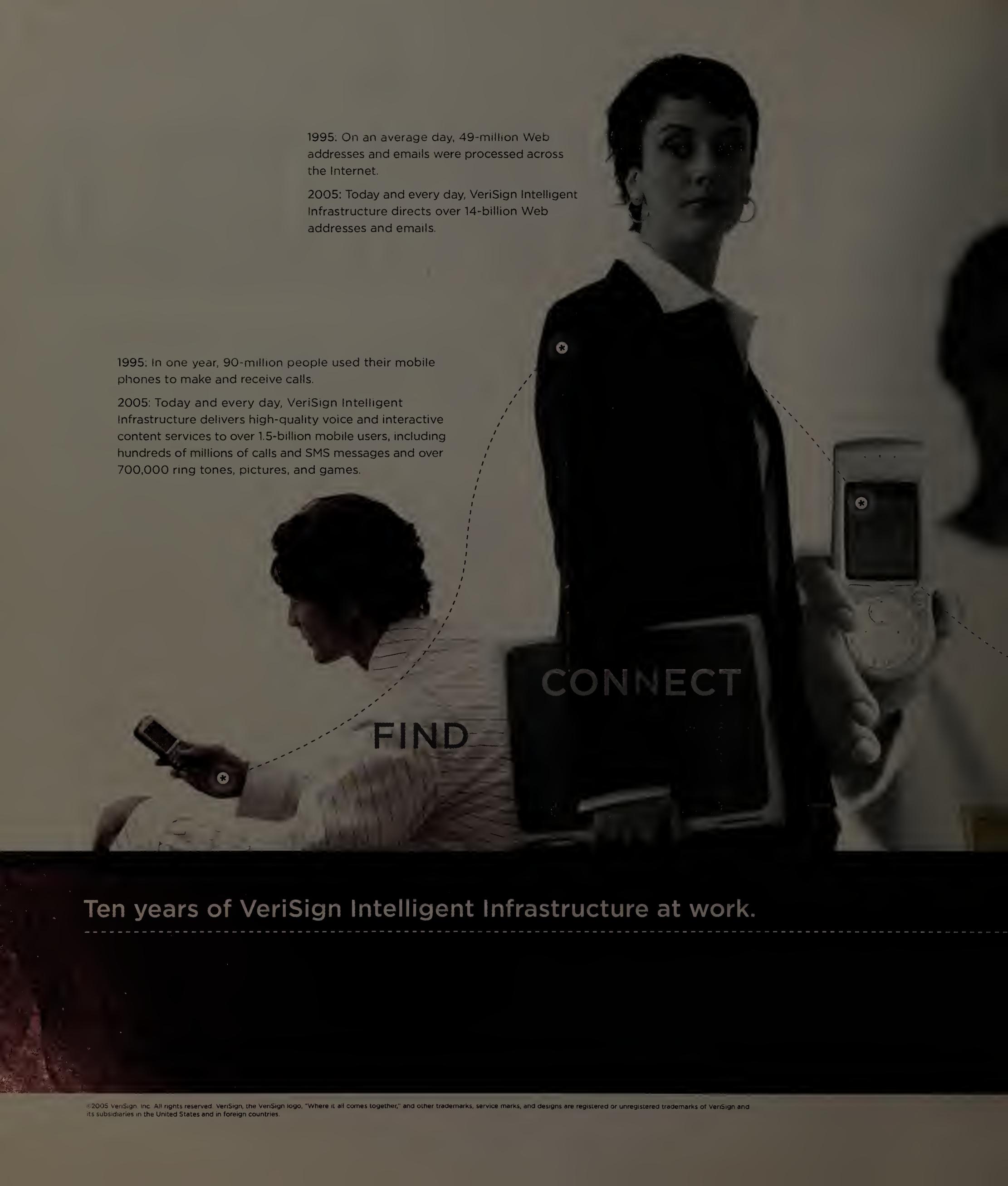
BY TIM GREENE

CAMBRIDGE, Mass. — Some of the best Internet minds in the world met for the first time last week to brainstorm new ways to defend against 'Net-clogging threats.

The Usenix invitation-only workshop — called Steps to Reducing Unwanted Traffic on the Internet (SRUTI) — brought together more than 50 technical staff from equipment vendors and ISPs, as well as academics from all over

the world, to develop practical methods to cut down on spam, viruses, worms and denial-of-service attacks. (Sruti, by the way, is a Sanskrit word meaning "that which is heard".)

See SRUTI, page 13



1995: On an average day, 49-million Web addresses and emails were processed across the Internet.

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The ROI of VoIP

How to determine the real-world costs and benefits of a conversion to VoIP. This step-by-step guide takes you through the cost side of the equation, including everything from start-up costs to management tools to staff training. And it provides a framework for figuring cost savings in areas such as international long-distance, local loop and audioconferencing, plus moves, adds and changes. **Page 36.**



Clear Choice Test: if you're a small business looking for e-mail, file and print sharing and a Web presence in one box, check out EmergeCore's IT-100. **Page 39.**

Clear Choice Test: IPControl from International Network Services gets high marks on its ease of use and low cost. **Page 40.**

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IT Borderlands

Being an IT professional today means more than just fielding help desk calls or installing software. Ken Fasimpaur writes about life as an IT pro in our newest blog, **IT Borderlands**, which he describes as "every place where the 'traditional' skills and tasks of the information technology field meet and mingle with . . . everything else."

DocFinder: 7944

Zdziarski also has a book coming out this week, "Ending Spam."

DocFinder: 7945

Multimedia Exchange

Skype Toolbar for Outlook

Multimedia Editor Jason Meserve looks at a new toolbar that integrates Skype into Outlook, making it easier to sync up and connect with contacts in both applications.

DocFinder: 7946

Forum: An open letter to the open source community

Readers react to our open letter

Some think we're dead-on in our requests, while others . . . well . . . head over to the forum and see for yourself. **DocFinder:** 7947

Network World Radio/Podcast:

Anti-spam techniques

We speak with author and anti-spam developer Jonathan Zdziarski about his DSPAM application and Bayesian filtering techniques.

Home network writer Keith Shaw examines Plexor's ConvertX PX-TV100U Personal Video Recorder and Slingbox from Sling Media.

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Get used to competing for jobs

Columnist Linda Musthaler looks at the future for IT professionals. **DocFinder:** 7951

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NEWSbits

Ebbers to be sentenced Wednesday

■ Former WorldCom CEO Bernard Ebbers will learn his fate this week. Ebbers will be sentenced Wednesday for his March conspiracy and fraud conviction in connection with the largest bankruptcy in U.S. history. Ebbers faces up to 85 years in prison. Scott Sullivan, former CFO, who took the stand against Ebbers claiming the former CEO orchestrated the fraud that brought the second-largest telecom company to its knees, is expected to be sentenced in August. WorldCom is now known as MCI and emerged from bankruptcy in April 2004.

SCO to depose Palmisano

■ The SCO Group's legal battle with IBM continues its slow march to trial. In a ruling issued July 1, U.S. District Judge Dale Kimball set a new trial date of Feb. 26, 2007. The jury trial had been scheduled to begin this November. The rescheduling, to give the parties time for pretrial preparations, came as Kimball granted SCO's request to depose IBM CEO Sam Palmisano. While IBM opposed the Palmisano deposition, saying that the information SCO sought could be gathered from other sources, Kimball ruled, "Mr. Palmisano could have unique personal knowledge related to the claims in this action." SCO filed its \$3 billion lawsuit against IBM in 2003, claiming the company had illegally ported SCO's proprietary Unix code into Linux. IBM denies the claims.

Google among investors in BPL

■ Current Communications Group, a provider of broadband over power line service, has received funding from Google; Goldman, Sachs & Co. and The Hearst Corp., the company announced last week. Current Communications, which is selling BPL Internet service in the Cincinnati area, received "significant" funding from the three companies, says Scott Bruce, general manager of the company. Bruce declined to disclose the amount of investment, although *The Wall Street Journal* pegged the new round of funding at about \$100 million. In March 2004, Current Communications and Cinergy Broadband LLC, a subsidiary of Cinergy Corp., announced invest-

{ quote of the week }
 { quote of the week }
 { quote of the week }

"With the Internet, there's been no effect. There's a lot of traffic flowing to the news sites, which are holding up very well."

Vanessa Evans, spokeswoman, London Internet Exchange, in the hours after last week's terrorist attack.

ments of \$70 million as the partners began rolling out BPL service in the Cincinnati area. The rollout includes broadband service and VoIP service.

Microsoft to release patches

■ Microsoft is set to release three software patches this week covering critical flaws in its Windows operating system and Microsoft Office. The company also plans to release an updated version of its Windows Software Removal Tool. The patches, which Microsoft calls "updates," will come as part of the company's regular monthly patch release cycle. Microsoft releases most software patches on the second Tuesday of each month, a date that has come to be known as "Patch Tuesday" by security professionals. The company did not release any details on the specific nature of the patches, except to say that some of them will be rated

The Good The Bad The Ugly

◀ **Healthy spam?** People who digested a steady diet of e-mails that promote good health were found to eat better and increase physical activity, according to a study from the University of Alberta. The 12-week study of 2,598 Canadian workers will be published in the *American Journal of Health Promotion*.

Those slippery tapes. Data archiving company Iron Mountain last week said it lost customer data back-up tapes, the second time it has acknowledged such a problem in the last few months. Last week, the company told *The Boston Globe* that it had misplaced data back-up tapes from the City National Bank of Los Angeles. Earlier, the company made headlines for losing tapes containing data on about 600,000 Time Warner employees.

Getting chippy. Broadcom has filed an antitrust suit against cell phone chip maker Qualcomm, charging it with unfair licensing practices. In a complaint filed in the U.S. District Court for the District of New Jersey, Broadcom accused Qualcomm of abusing the wireless standards-setting process, failing to license technologies for cellular wireless standards on fair and reasonable terms, and other anticompetitive practices (see www.networkworld.com, DocFinder: 7958). Qualcomm could not be immediately reached for comment.

"critical," meaning flaws could allow malicious code to be installed on an affected computer without user action.

Alltel ordered to sell off assets

■ The U.S. Department of Justice is requiring Alltel to sell off some of its assets in three central U.S. states before completing a \$6 billion acquisition of competing wireless carrier Western Wireless. The Justice Department, in a settlement announced last week, says it will approve the acquisition if a court approves its divestiture requirements. The Justice Department's conditions require Alltel, the sixth-largest wireless carrier in the U.S., to divest assets in Kansas, Nebraska and Arkansas. The FCC must also approve the merger. Alltel, with about 8.8 million wireless customers, announced in January its plans to acquire Western Wireless, the nation's ninth-largest wireless carrier, with about 1.4 million U.S. customers.

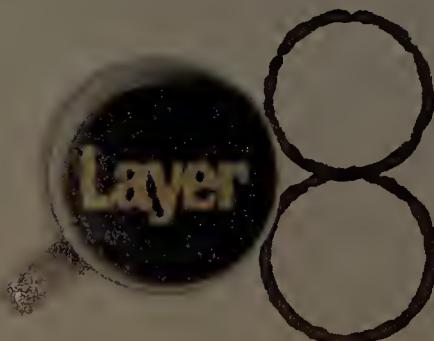
Business Objects off the hook

■ Business Objects SA will not face charges from the U.S. Securities and Exchange Commission. The business intelligence software developer warned last August that the SEC had opened an inquiry and intended to recommend that a civil action be initiated against Business Objects, alleging that the company violated provisions of the Securities and Exchange Act of 1934 relating to periodic reporting requirements. However, the informal inquiry has ended without recommendation for any enforcement action, the company said it had been told by SEC staff.



"Larry and Jeff were having fun training their new Robo-Pooch the FETCH command, but they were still having trouble with the DUMP command."

Jay Moore of Etta, Miss., wins our latest Weekly Caption Contest with the above entry. Check in every Monday for the start for a new round and enter to win Layer 8 prizes. www.networkworld.com/weblogs/layer8





64



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All eyes on security management

Network and systems management vendors buying their way into the market.

BY DENISE DUBIE

Network and systems management vendors have been on a shopping spree of sorts for some time now, and the current must-have item on their list is security information management.

Following Micromuse's announcement earlier this month that it would acquire GuardedNet for \$16.2 million, industry watchers speculate that the purchase might mark the beginning of the end for pure-play SIM vendors. In Micromuse's case, the purchase would augment that company's Netcool for Security Management offering with more-sophisticated correlation and reporting tools, the company says. The acquisition also contributes to a trend that Cisco kicked off last December when it acquired SIM vendor Protego Networks.

"Systems management and other vendors are looking at SIM as an area with high growth potential, and they will work to sell integrated products to their installed bases," says Stephen Elliot, a senior analyst with IDC. "Computer Associates may do SIM on its own, but acquisition could provide the fastest time to market for other vendors."

Acquisition isn't the only route vendors are taking to deliver SIM. Cisco also licenses SIM technology from netForensics to augment its network security plans; HP last month announced it had partnered with ArcSight to provide OpenView Compliance Manager; and storage giant EMC joined forces with SenSage to couple its Centera storage products with SenSage's event log collection and retention features. CA and IBM Tivoli separately offer stand-alone or bundled management applications that deliver SIM capabilities.

Management vendors cite obvious synergies between the two technologies as the reason why security events should be managed alongside network events to best protect against threats and to optimize network performance.

Others think vendors could be motivated by potential revenue. The Yankee Group estimates the \$30 million SIM market could grow to close to \$800 million

Making security plays

Management software makers, network giants and security vendors are all vying for the biggest piece of the security information and event management market.

Company	Acquisition	Price	Announced	Details
Micromuse	GuardedNet	\$16.2 million	July 2005	Micromuse plans to integrate GuardedNet's newSecure with Micromuse Netcool for Security Management software.
Cisco	Protego Networks	\$65 million	December 2004	Cisco folded Protego's appliance, Mitigation and Response System, into its Cisco Security, Monitoring, Analysis and Response System.
Symantec	Veritas	\$13.5 billion	December 2004	Symantec could use the Veritas technology to conquer the data storage challenge that many SIM vendors face today.

by 2009.

Yet industry watchers say tackling security will require management vendors to do more than develop an add-on software module. The differences between security events and network events could require vendors to enhance their event correlation, data warehousing and storage capabilities.

"Security information should definitely be integrated with network management information in terms of common workflows and databases, and the market will consolidate," says George Hamilton, a senior analyst with The Yankee Group. "But management vendors may not be taking into account the fact that security has the steepest innovation curve of any technology out there."

Not only would tackling SIM challenge network management vendors to bone up on their security skills, but it also would require them to change the way their products work. While SIM products typically consist of software, servers and agents, or probe appliances that collect logs from devices, the resemblance to network management tools could end there. SIM tools contain more intelligence specific to security events and are geared toward reacting to constant change, whereas network management software works to document approved changes and prevent unwanted alterations to device and software configurations.

"Management vendors will contend that security is a sub-element of management, but the whole goal for the [network and systems management] vendors is to fight change, to make sure everything stays the way it's supposed to and

to reduce the cost of manual repetitive actions," says John Pescatore, a vice president at Gartner. "Security management is the opposite. It requires the ability to react quickly to constant change. There are only a few repetitive actions on the security side."

With several competitors — ArcSight, e-Security, Intellitactics, netForensics, Network Intelligence and OpenService, to name a few — and little differentiation in the SIM market, industry analysts say pure-play vendors will have to fight to remain profitable and to contend with larger management vendors aggressively working to incorporate the security-specific tools into their product suites.

"SIM vendors are going to have to find a way to expand their capabilities and expand their reach within the enterprise," says Scott Crawford, a senior analyst at research firm Enterprise Management Associates. "SIM does help to simplify security event collection and analysis, but it also requires a fair amount of resources and staff to get it implemented."

The Yankee Group estimates that for midsize to large organizations, the software, hardware and implementation costs to get SIM rolled out can reach close to \$400,000 — not including the expense of adding devices, ongoing maintenance and storage requirements. The escalating cost of a niche product doesn't appeal to users, but neither does the idea of rolling out an entire management framework to get the benefit of automated event collection, filtering and analysis.

"Network management products are just so big and all-encom-

OpenService's Security Threat Manager to keep up with security logs on more than 100 managed devices.

Hansen says he can see the benefits of tying together security and network monitoring tools to better align alerts from the separate systems, but for now he says network management products lack the in-depth security knowledge and correlation capabilities to make sense of alerts for security staffers.

"If the management vendor doesn't fundamentally understand what it is looking for in the security events, then all the data collection will just become another case of 'garbage in, garbage out,'" he says. ■

Cisco announces management shifts

BY PHIL HOCHMUTH

Cisco last week promoted Charles Giancarlo to chief development officer, a year after he was named CTO and president of Cisco's Linksys division.

He replaces Mario Mazzola, who is retiring as Cisco's head of engineering. Mazzola, 58, had been with Cisco for 12 years. Giancarlo will remain as the head of Linksys.

In a statement, Cisco CEO John Chambers said Mazzola's role as head of engineering "contributed significantly during a pivotal time in Cisco's history, solidifying our reputation for innovation and risk taking....I have tremendous confidence in [Giancarlo's] ability to build upon this foundation."

Giancarlo will handle R&D efforts behind all of Cisco's product lines — from enterprise and carrier routing and switching, to voice, security and home network gear — and an R&D operation larger than many of the company's rivals' annual revenue. (Cisco spent \$3 billion on product development in its 2004 fiscal year.) Cisco will look to fill the role of CTO — which focuses on the promotion of Cisco technology — over the next several months.

Other changes include the creation of the Data Center, Switching and Security Technology Group, which will be headed by Senior Vice President Jayshree Ullal. Formerly in charge of Cisco's security business, Ullal takes over the storage and switching responsibilities from Senior Vice President Luca Cafiero, who is retiring.

Mike Volpi, senior vice president of Cisco's Routing Technology Group, will add optical and service provider voice technology to his responsibilities, as well as the company's overall service provider strategy. ■



With the retirement of Mario Mazzola, Charlie Giancarlo takes over as chief development officer at Cisco.



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The Power of Being There®

Microsoft targets midsize businesses

BY JOHN FONTANA

Microsoft last week put together a bundle of servers designed to help midsize companies replace aging software with a more secure and manageable infrastructure.

The company is bundling Exchange Server 2003 Standard Edition, Microsoft Operations Manager (MOM) 2005 Workgroup Edition and three copies of Windows Server 2003 Standard Edition into a single product. The offering signals Microsoft's intent to tailor its software for midsize companies, a segment of the corporate market that rival IBM is attacking but Microsoft has yet to serve specifically.

The new bundle is aimed at companies with more than 50 users that are growing, have small IT staffs, need to support branch offices and typically have aging systems such as Windows NT and Exchange 5.5 that Microsoft no longer supports. The bundle also is designed to run across three servers to create a core infrastruc-

Moving to the middle

Microsoft, under pressure from IBM and others, is releasing a bundle of software and tools designed specifically to meet the needs of midsize companies.

Bundle components	Feature/function
Windows Server 2003, Standard Edition	Includes three copies of network operating system to create core infrastructure.
Exchange Server 2003, Standard Edition	Full-feature mail server.
Microsoft Operations Manager, Workgroup Edition	Monitoring software limited to 10 servers.

ture with room to expand.

Microsoft currently serves smaller companies with its popular Small Business Server, which includes Windows Server 2003, Exchange Server, SQL Server, and Internet Security and Acceleration Server. But this package is limited to 50 users, runs on a single piece of hardware and is not designed to support branch offices.

"You're getting the ability to expand your systems beyond pre-

set storage limits and license limits," says Tim McKellips, manager of education and information worker solutions for Inacom, a systems integrator in Madison, Wis. "You get the flexibility so you can partner without being limited to a set number of connections. Eventually you get the robustness of distributed computing."

In addition to the software, Microsoft has created a combination client access license (CAL) that covers both Windows and

Exchange. Users can buy up to 250 of those combination licenses. The bundle will ship with 50 CALs for Windows and Exchange.

Microsoft also has designed a specific TechNet Web site for mid-size companies that offers technical advice and guidance. Also included is a set of tools, including the Microsoft Security Assessment Tool, for assessing security vulnerabilities on the network; the Microsoft TCO Assessment Tool, which offers models for IT spending based on specific corporate requirements; the Microsoft Baseline Security Analyzer, which determines if patches are up to date; and the Microsoft Software Inventory Analyzer, which collects an inventory of Microsoft software installed on desktops and the network.

"This [new bundle] is a signal that they are going after the mid-market," says Mika Krammer, an analyst with Gartner. "You see

encroachment from Linux here, and IBM is dumping a ton of money into developing products and partnerships to do a Microsoft takeout on the upper end of the mid-market, and Microsoft has to respond."

Krammer says this bundle of infrastructure software is just the start of more to come.

The bundle is shipping now, and Microsoft is offering for the next 12 months a 20% discount that puts the price at \$6,400 for users on Open license contracts. ■

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SMB event

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DocFinder: 7239

Active Directory expands beyond Windows

BY JOHN FONTANA

Microsoft last week extended its directory beyond Windows with the introduction of an interoperability program and agreements with key partners.

The intent of the Active Directory Interoperability Program is to provide corporate users with tools to cement Active Directory into the core of their Web access control and identity infrastructure by providing interoperability tools, standards support and extensions to systems running on non-Windows platforms.

Microsoft is ramping up the interoperability program ahead of the next release of Windows Server 2003, dubbed R2, which will include Active Directory Federation Services (ADFS). R2's release has been pushed back to between October and year-end.

ADFS lets users share authentication, or federate, data across corporate boundaries. Microsoft uses a protocol it developed with IBM called WS-Federation to support that sharing. Many other vendors use a competing standard called

Active adoption

Gartner estimates that nearly two out of three corporations have Active Directory ready for use as part of an identity and access infrastructure, while Microsoft says nearly 70% of corporations have adopted Active Directory.

Security Assertion Markup Language (SAML).

Tools coming from Centrify and Vintela will let users directly hook Web-based Java applications into the directory. Centrify will add a set of modules to its DirectControl suite that uses SAML to tie Java applications to ADFS and its WS-Federation protocol. Vintela is adding ADFS federation support to its Vintela Single Sign-on for Java. The software is expected to be available shortly after Windows Server 2003 R2 ships.

"Microsoft is now entering the market with its own single sign-on, federated identity management platform, and the challenge that it has is that for users to do federated identity they have to have a pure Microsoft environment and from a Web applications perspective that is just not going to be the case" in most companies, says Tom Kemp, CEO of Centrify.

Also, Kernel Networks is developing an OpenLDAP management agent that is scheduled to be available on a royalty-free basis by year-end. The agent will let customers integrate OpenLDAP 2.x into identity-management infrastructures based on Active Directory and Microsoft Identity Integration Server 2003.

In addition to the integration work of third-party partners, Microsoft has added other aspects to its program, including an interoperability lab in Redmond, Wash., and a Web site focused solely on Active Directory interoperability.

Microsoft also says it will offer licensing for intellectual property and protocol technology to foster

interoperability, including licensing the Active Directory Password Change Notification Service to independent software vendors and corporate users who want to incorporate the technology into their applications.

"We have made it easier to get at password information," says Microsoft's Michael Stephenson. "You can change a user telephone number and have it be the same in all repositories. Now you can have the password be the same." ■

Worm creator found guilty

BY PETER SAYER

A German teenager who confessed to creating the Sasser computer worm last week was found guilty of three counts of computer sabotage and four counts of data manipulation, and given a suspended sentence of 21 months.

Sven Jaschan, 19, was sentenced at the district court in Verden, Germany, the court said. Jaschan will be released on three years' probation. If he commits another crime during the probation period, he will be jailed at a juvenile detention center to serve the 21-month sentence.

In addition, Jaschan must perform 30 hours of community service in a home for the elderly or a hospital. Jaschan confessed to writing the Sasser worm after he was arrested in May 2004. The computer worm crashed hundreds of thousands of computers around the world last year by exploiting a flaw in a Windows software component called the Local Security Authority Subsystem Service.

Jaschan could face civil lawsuits brought by companies whose IT systems were infected by the computer worm.

Sayer is a correspondent with the IDG News Service.

You work hard to gather your data. (You shouldn't have to work hard to keep it.)



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Vendors tout WLAN security advances

BY JOHN COX

Two wireless LAN security vendors last week separately announced streamlined versions of their software.

Senforce's Wi-Fi Security is a less-expensive subset of the company's Endpoint Security Suite. The new offering downloads an agent to mobile or desktop clients and enforces centrally created security policies.

Meanwhile, AirDefense pulled from its server-based wireless intrusion-prevention product several components that now can be deployed on a wireless laptop to

monitor radio traffic and pinpoint WLAN clients and access points. The new product is called AirDefense Mobile.

Senforce used several key elements of its current suite, and added a group of automatic reports, graphs and summaries of wireless activities and status. Policy Editor is a PC program for setting rules for what client devices can and can't do, such as "all wireless clients at headquarters can only connect to access points that support the Wi-Fi Protected Access 2 specification."

The policies are stored by Sen-

force server applications and distributed, along with an application called Security Client, to wireless devices whenever they boot up or change their network connection. Security Client has code to enforce the policy rules on the device.

The client code can't be unloaded, disabled or sidestepped by end users, Senforce says.

Missing from Wi-Fi Security are a range of features in the full suite such as the company's firewall; drivers for controlling features such as the use of USB drives on portable devices; and integration

with third-party applications such as anti-virus products.

Rivals include AirDefense, AirMagnet and mobile device management vendors such as Mobile Automation, Wavelink and iAnywhere (which acquired XcelleNet's Afaria software).

Wi-Fi Security is priced starting at \$45 per user.

The AirDefense Mobile application runs on any Windows XP laptop with a WLAN adapter using the Atheros chipset. It lets administrators monitor and analyze every frame from any kind of 802.11 access point within range of the adapter's radio.

The U.S. Army Forces Command (FORSCOM) has been using the mobile version to enforce its "no wireless" policy at Fort McPherson, Ga. Civilian network administrators do periodic "war walks" around the site, using the software and laptop to pick up transmissions.

"We found an Army Reserve unit that had installed an access point in a warehouse and hooked up laptops for inventory control," says Robert Isaacs, network security manager for Booz-Allen Hamilton assigned to FORSCOM. "We found it and shut them down."

The software also measures the

strength of local radio signals. Using this data, AirDefense algorithms calculate the location of authorized and unauthorized wireless access points and users.

Although separate from AirDefense Enterprise, the mobile version can link with it and download details of radios in a given area.

In addition, the Enterprise version lets administrators assign descriptive names to devices such as "second floor conference room access point," and the mobile version can make use of these.

AirMagnet and another vendor, AirTight, compete with AirDefense in enterprise, server-based offerings for wireless-intrusion detection and prevention.

AirDefense Mobile costs \$1,000. ■

Dell begins dual-core push, upgrades blade servers

BY JENNIFER MEARS

While HP, IBM and Sun already have begun shipping systems based on Advanced Micro Devices' dual-core Opteron, Dell this week is set to enter the dual-core fray with a single-processor box aimed at small and midsize businesses.

The SC430, a tower server built on Intel's dual-core Pentium D processor, adds 50% more storage capacity with up to 4G bytes of Double Data Rate 2 Synchronous Dynamic DRAM. It also has 50% more high-speed buses, with three PCI Express slots, than its predecessor, the PowerEdge SC420, Dell says.

The box is designed for companies looking to support e-mail, file and print, and Web-serving applications. The dual-core design will give multi-threaded applications a 40% bump in performance, Dell says. The system starts at \$499 for a single-core Celeron processor and comes with management software and professional services now. It supports Windows Server 2003 and Red Hat and SuSE Linux.

The introduction of the SC430 should end any doubts among IT professionals as to whether dual-core x86 systems are becoming mainstream platforms for data center workloads, analysts say. Both Intel and AMD are transitioning their processors to dual-core designs, although Intel isn't expected to have dual-core Itanium or Xeon systems until year-end.

"Dell typically waits until other companies build the market and then comes out with a product targeted at the demand that has been established," says Joe Clabby, a vice president at Summit Strategies.



Dell's first dual-core server, the SC430, is aimed at SMBs and starts at \$850 for a single, dual-core Pentium D processor.

Channel switch for its blade enclosure, as well as an InfiniBand switch from Topspin Communications.

After stumbling with its initial blade product, the PowerEdge 1655 MC, Dell says it has seen quick adoption of the PowerEdge 1855 it introduced last fall.

Tim Golden, director of PowerEdge server marketing at Dell, cites IDG statistics indicating that in the first four months of shipping the product, Dell grew its share in the two-processor x86 blade market from 4% to 12%.

Making it easier to integrate blades into current network infrastructure is a key part of moving blades into a more mainstream role. Golden says end users can expect Dell to continue to expand network connectivity options for its blade servers. Dell is in talks with Cisco, for example, to integrate a Cisco Ethernet switch into its blade offering. ■

nww.com

Points to ponder

Whether you're in the office or on campus, detecting rogue access points is a must. Help Desk guru Ron Nutter shows you how.

DocFinder: 7961

Citrix streamlines apps management pack

BY STACY COWLEY

Citrix Systems last week announced a version of its application management software tailored for mid-market businesses, a step that the company hopes will aid its expansion beyond the enterprise market.

Citrix Access Essentials is derived from the company's Presentation Server (formerly called MetaFrame) software, which helps organizations centrally deploy, manage and secure business applications. The software can be used to support remote and mobile application access.

"With the Presentation Server mainstream product, we've increasingly tuned it for larger enterprises," says Paul Burke, a senior product manager. "Smaller customers say they end up with a choice of a low-end product where they lack security and features, or Presentation Server, but Presentation Server imposes too much of a cost."

Citrix Access Essentials is priced at \$250 per seat, with licenses sold in five-user packs. The software is capped at 75 users, and includes client access licenses for Microsoft's Windows Terminal Server software. Citrix Access Essentials will be sold entirely through Citrix's reseller channel.

The new software can be run on one server and includes a wizard interface intended to simplify installation. Burke says that beyond the scalability limits imposed by the 75-user cap, Citrix Access Essentials is functionally comparable to Citrix's full-strength Presentation Server.

Cowley is a correspondent with the IDG News Service.

SRUTI

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Participants exposed fresh ideas to expert criticism, sometimes resulting in helpful suggestions and sometimes pointing out significant problems.

One promising proposal would help wipe out the bulk of distributed DoS attacks near their sources, but not those attacks in which the aggressor machines use spoofed IP addresses. Even though the proposal wouldn't block all attacks, it was still considered feasible because it would mitigate the bulk of distributed DoS exploits that rely on networks of unspoofed zombie machines — botnets — to fire off the attacks.

On the flip side, another presentation advanced a relatively simple method of encrypting e-mail that would also authenticate the sender and receiver. But this was pretty much shot down when one attendee pointed out that encrypting e-mail would render useless spam filters that search content and subject lines for key words. "You have just proposed an excellent tool for spammers," he said. The author didn't have an answer for that.

Practicality seemed the watchword for the day. The author of the presentation on blocking distributed DoS attacks said there have been proposals that would be extremely effective if there were separate IP address spaces for servers and clients. "This has real possibilities if only we were redesigning the Internet from scratch," says Mark Handley, a researcher from University College London in the U.K., who presented the proposal.

Instead, his proposal would introduce devices near Internet servers and at the edge routers of ISPs to mark and monitor traffic to the servers. When a distributed DoS attack was detected, these devices would block at the edge routers traffic from addresses

identified as the source of the attack. These devices could effectively reduce distributed DoS traffic within a single ISP's network, Handley says. This enforcement could be extended to other ISPs and block attacks even closer to the source if the ISPs involved

Almeida said. Spammers can change the words selected for spam to duck keyword filters, but establishing themselves as members of trusted groups is more difficult, she said.

The algorithm weighs the probability that any message sent from



"[In fighting spam] you don't have to look at content to get a pretty good idea of what is going on. This has been useful in the intelligence community for years."

Steve Bellovin, professor, Columbia University

could develop enough trust to share knowledge about their networks, he says.

Dealing with spam

While distributed DoS drew much attention, SRUTI presenters also focused on spam, which accounts for the vast majority of e-mail crossing the Internet.

One researcher described a way to analyze the senders and recipients of e-mails in conjunction with a traditional spam filter to boost the overall effectiveness of spam protection. The algorithm reduces the amount of good e-mail that is identified as spam by about 20%, according to Jussara Almeida, a researcher at Universidade Federal de Minas Gerais in Brazil. "This is important since the cost of false positives is usually believed higher than the cost of false negatives," she said.

The study by her team divided senders and recipients into groups based on who routinely receives legitimate e-mail from whom. The memberships of these groups — essentially contact lists — are more stable than criteria used for other screening methods such as looking for keywords,

a certain group of senders to a specific group of recipients is spam. It is effective at sorting a certain percentage as definitely spam and definitely not spam, with a gray area in between. The researchers are working to tweak the algorithm to reduce the size of the gray area, she said.

A similar method of sorting IP voice mail spam — spam over IP telephony (SPIT) — also relies on senders and receivers. This is key in filtering SPIT because the point

is to get rid of the unwanted messages without having to waste time listening to them, which would be required if the content were examined.

"You don't have to look at content to get a pretty good idea of what is going on," says Steve Bellovin, a professor at Columbia University and a moderator at SRUTI. "This has been useful in the intelligence community for years."

Researchers from the University of North Texas, Denton, have created a voice spam detection server they say can identify a "spitter" after just three calls to users in a given group, such as a corporation. The server analyzes where calls are from and whether messages left by those sources are likely to be SPIT based on the experience users have had with calls from the same sources, said Ram Dantu, a researcher at the university.

While this particular defense would be the same all the time, some of the proposals called for dynamic defense systems that change as the nature of threats change. Based on the severity of a detected attack and other network conditions, an adaptive defense can adjust its response to minimize the amount of false positives and false negatives, says Cliff Zou, a researcher at the University of Massachusetts, Amherst. False

positives and negatives can both prove costly to users, either by blocking important legitimate traffic or failing to block an attack.

One possible downside to this idea of measured response is that attackers might lull such defense systems into less restrictive modes and then hit with sudden, intense barrages that could have devastating effect before an adequate defense could be mounted, according to reactions to the talk.

Other ideas floated at the workshop ranged from setting up honeypots to lure spammers and then tie up their resources, to simulating network congestion to see how suspicious traffic streams respond as a way to determine whether a person is behind the session or a zombie machine sending automated responses.

In aggregate the 13 papers presented last week represent a springboard for producing a faster Internet, said Dina Katabi, an MIT professor and co-chairman of the workshop. "The talks have proposed promising solutions that address important problems," she said. ■

MESSAGING

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Sprint rolls out EV-DO service

BY DENISE PAPPALARDO

Sprint this month will launch its Evolution Data Optimized wireless high-speed data service in 34 markets, the company said last week.

Sprint first announced its EV-DO service plans just more than a year ago. The carrier says its EV-DO Wireless High-Speed Data Service will be available in at least 60 metropolitan markets by early next year and reach 150 million people.

"With this announcement we're enabling mobile workers with connection cards. Handset launches are planned for later in 2005 with associated applications," says Barry Tishgart, senior director of product management at Sprint.

Users can expect EV-DO multimedia applications with handsets that are equipped with better processing power, screens and more memory in the fourth quarter, he says.

The initial EV-DO markets will include Charlotte, N.C., Cleveland, Detroit, New Orleans and Sacramento. In July, cities such as Chicago, Dallas, Miami and San Francisco will come online. A full list of the service's geographic reach is available on www.networkworld.com, DocFinder: 7962.

Verizon Wireless was the first provider to make EV-DO available last year. The carrier's

BroadbandAccess EV-DO service is available in 50 markets, supporting transmission speeds between 400K and 700K bit/sec. Verizon Wireless says its BroadbandAccess service will be available to more than half of the U.S. population by year-end.

Packages and pricing

Sprint says its EV-DO service also supports wireless data transmissions between 400K and 700K bit/sec and can burst up to 2M bit/sec. EV-DO is a huge leap forward for Sprint's 1xRTT wireless data users who have average transmission speeds of 50K to 70K bit/sec, Tishgart says.

Consumer pricing plans start at \$40 per month for 40M bytes. If users go over the 40M bytes, the most they will be charged is \$90 per month.

The carrier also is offering an unlimited service for business users starting at \$80 per month.

Users who sign up for either package also will have the option of using Sprint's 1xRTT Code Division Multiple Access wireless network when they are roaming in areas where EV-DO is not yet available.

Customers also are required to purchase an AirCard from Sierra Wireless or Novatel Wireless that costs about \$250 each. ■

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Microsoft

continued from page 1

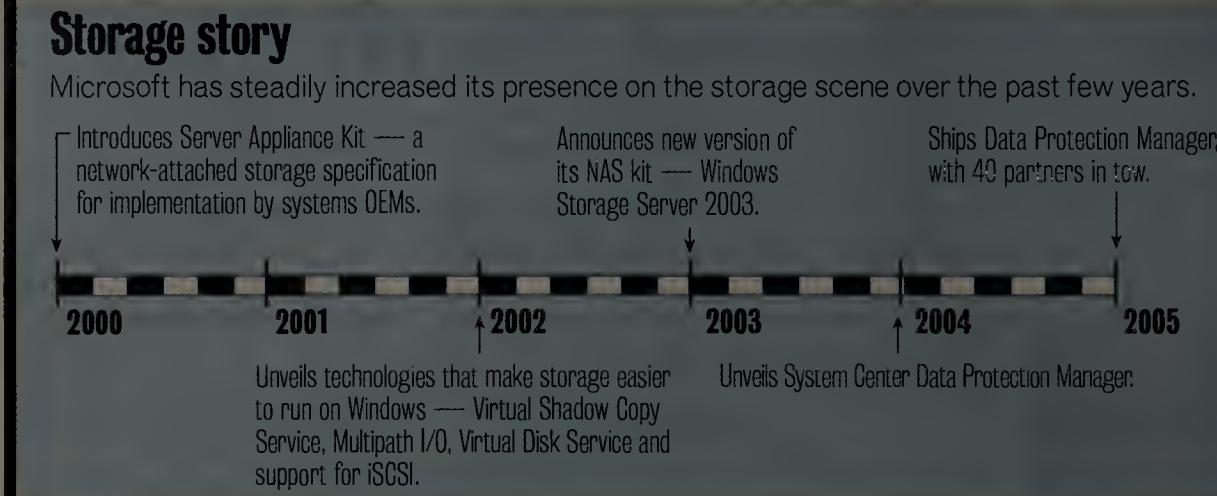
storage products in competition with such vendors.

"Products like DPM absolutely pose a competitive threat to pure-play storage independent software vendors [ISV]," says David Freund, an analyst for Illuminata.

Microsoft's storage efforts bring to mind the company's inroads into other markets, such as anti-virus and anti-spam, where it initially looked not to be a direct competitor to current vendors. Microsoft won't reveal how much money or how many people it is devoting to storage, but observers say it is significant.

DPM will back up data on Windows file servers and network-attached storage (NAS) devices as a series of as many as 64 snapshots. It differs from many other continuous data-protection products in that it allows end users to recover data. DPM, which costs \$950 for every three servers protected, runs on a server and backs up data from local or remote file servers. It saves the data to its attached disk storage for later archiving to tape.

DPM represents the third tenet of Microsoft's storage strategy, according to Ben Matheson, a Microsoft product manager. "The first is to make Windows the best platform for storage," Matheson



says. "The second is to work with storage partners to create a broad storage ecosystem." The third is to introduce new storage offerings.

The company initiated its storage efforts in 2000 with the introduction of Server Appliance Kit, now known as Windows Storage Server. The kit gave systems manufacturers tools with which to develop NAS systems for Windows networks. Windows-based NAS systems swelled from practically no market share to 41% within two years, cutting into the share of vendors whose offerings are based on proprietary software, according to Gartner. Dell, HP and EMC are among the 19 vendors now making NAS systems to Microsoft's specifications.

In 2002, Microsoft unveiled a variety of storage technologies that let other companies' software

work better with Windows networks. As with the tool kit, Microsoft's offerings were not seen as encroaching on the territory of its partners in the storage industry.

"Microsoft's storage technologies — Virtual Shadow Copy Service and Multipath I/O — have been largely complementary to other vendors' products," Illuminata's Freund says. Virtual Shadow Copy Service automates the backup of network volumes; Multipath I/O lets vendors offer Windows-based multiple path redundancy between host computers and their storage-area network devices.

Unlike that software, DPM is seen as a direct competitor to offerings from companies such as Symantec (which recently acquired Veritas), Computer Associates and start-ups such as Mendocino Software and Mimosa Systems, and storage resource-management vendors AppliQ and Creekpath.

Microsoft has a history of cooperating with storage ISVs. For instance, its NTBackup Tape Backup Utility, which shipped with Windows NT and 2000, was a repackaged and stripped-down version of Veritas' Backup Exec software.

But that relationship could crumble as the company reaches further into storage.

"Microsoft is increasing its 'coopetition' with partners," Freund says.

Analysts and users say Microsoft could prove particularly competitive in small and midsize business storage networks.

"Most [such] Microsoft shops will look to Microsoft for a solution first instead of introducing another layer of complexity" by bringing in another vendor, says Ron Hawkins, senior technical architect for Harvard University.

As DPM matures and gains functionality, however, it could rival enterprise network-class products

from vendors such as EMC and IBM, observers say. The continuous data-protection market is in its infancy but has attracted lots of players, including Network appliance and start-up TimeSpring.

"When DPM can back up applications and databases, then it's time [for other vendors] to worry," says Stephanie Balaouras, senior analyst for The Yankee Group. "Then it becomes applicable to the mid-market, 500-plus employee organizations, where Microsoft is the dominant operating system."

But DPM will not eliminate the need for other back-up and recovery products, says Randy Kerns, an independent analyst.

"They will still be used for tape backups, but not as many or as often," he says.

Microsoft's Matheson says DPM will support Microsoft Exchange, SQL Server, server imaging, and recovery of files on users' desktop drives in the second release, due in two years.

Microsoft is expected to integrate more storage resource management capabilities into its products, analysts say. The company has included a thin version of Veritas' storage resource management software in Windows Storage Server 2003. And, sources say that Windows Server 2003 R2, also known as Longhorn, will include storage research-management software from Veritas. ■

SAP offers Safe Passage program to midsized firms

BY JOHN BLAU

In a move to attract a larger number of customers from rival Oracle, SAP AG is extending its Safe Passage program to include small and midsized businesses worldwide.

SAP and its channel partners for mySAP All-in-One will collaborate to provide SMBs running PeopleSoft and J.D. Edwards software systems protection for these existing investments, while offering a migration path to the nearly 600 mySAP All-in-One applications, SAP said last week.

PeopleSoft, which acquired J.D. Edwards in 2003, was purchased one year later by Oracle. SAP has been courting PeopleSoft and J.D. Edwards customers since Oracle announced its acquisition plans.

The new SMB program provides a conversion credit of up to 75% of the original PeopleSoft and J.D. Edwards software licensing fees to be used toward the licensing of mySAP All-in-One software products. The offer is valid for all versions and releases of PeopleSoft and J.D. Edwards applications. Support and maintenance of the software will be provided through mySAP All-in-One partners.

The Safe Passage program, launched in January, initially targeted SAP customers who also ran applications from either or both of these software vendors. Around 2,000 SAP customers fit into this target group.

Blau is a correspondent with the IDG News Service.

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And an ITG study showed overall costs for Oracle Database up to four times higher than DB2.² The Transaction Processing Performance Council results show that DB2 and eServer™ p5-595 are more than twice as scalable as Oracle Real Application Clusters, making them the overwhelming performance and scalability leader for TPC-C.³ That's big, too.

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Roller coaster

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Cedar Point Amusement Park in Sandusky, Ohio, is worlds apart from the brain-dead roller coasters of old that relied on a greasy chain to clunk the car up a wooden hill. The Dragster's operators employ an array of modern technology to create an experience for riders that is the rough equivalent of being launched from an aircraft carrier deck, where jets accelerate from 0 to 165 mph in about 3 seconds.

Inner-workings

For starters, the Dragster is wired with 560,000 feet of copper cable to carry back performance data from 300 redundant pairs of sensors located throughout the track and engine room. The majority of the sensors are proximity switches that can measure the movement of the metal coaster car over the track. There

I got to find out what it feels like to be a human cannonball, or a Navy pilot, without the cannon, gun powder, helmet or parachute.

are also thermal temperature and pneumatic sensors. If any one of the sensor pairs fails to match the readout of the other, the Dragster is shut down for a safety check.

But the data aren't just collected for safety. They also help produce the perfect ride on every launch. The parameters within which the Dragster has to operate are so finely tuned that variable load weights from people, wind speed and outside temperature affect its performance.

So data ranging from the velocity of the roller coaster car at the top of the tower to wind speed and direction (taken from an anemometer atop the tower) are collected on every ride and analyzed using proprietary software developed for Cedar Point. After every third launch, the data are

averaged and compared with historic launch data in an effort to create that perfect ride — the roller coaster must go fast enough to clear the top of the tower, but slow to between 7 and 15 mph in order to give riders the maximum lift effect at the top.

Based on the comparison of current and historical data, the Dragster corrects itself by adjusting the pressure of the engine and other parameters to produce as near perfect a ride as possible every time.

To create the Dragster, Monty Jasper, an engineer, roller coaster lover and, oh yeah, a vice president of Cedar Fair, L.P. (Cedar Point's parent) teamed up about five years ago with Intamin AG, a Swiss company that is one of the top roller coaster designers in the world.

The quest was to build a roller coaster that would top 400 feet for the first time, a feat some thought impossible.

Jasper had just eclipsed the latest world's record by building a "giga-coaster," called the Millenium Force, which broke the 300-foot barrier. But was it really possible to pull off a 400-foot-high roller coaster in an area small enough and with technology affordable enough for an amusement park? Luckily for all roller coaster fans, the answer was yes. Price tag: \$25 million.

Jasper and Intamin decided to use a hydraulic engine, which can achieve higher speeds than linear induction motors (superconducting magnets), the propulsion system that many steel roller coasters started using in the late '90s, according to Jasper. That means the roller coaster would require less track, and thus, less space and expense. But this wouldn't be just any engine; the Dragster would require a 10,000-horsepower unit (a real drag racer has a 6,500-horsepower engine).

Even with all that muscle, the cars on the Dragster sometimes fall below the minimum speed needed, and drop backwards down the same 42-story building and safely back into the station, where they are stopped by a long row of heavy-duty magnetic brakes. If this happens, the operators give chickens, uh, "tired" riders, the chance to get off.

Sensory experience

Engine room



Computer room



Ready for takeoff

OK, so the technology is interesting, but what's it like to ride the Dragster? That's what I was wondering the first time I stepped into the front car and sat there with sweaty palms, waiting for what seemed like an eternity for the launch. Because the process of pressurizing the engine and checking the safety sensors takes about 40 to 50 seconds, the Dragster makes you wait for the thrill. Riders were loaded simultaneously into two trains while the operators made sure the train just launched cleared the top of the tower. That means you sit with adrenaline pumping and heart racing for around a minute before the launch — about three times as long as the 22-second ride.

I had ridden great roller coasters before. Superman: The Escape at Six Flags Magic Mountain in Valencia, Calif., accelerates from 0 to 100 mph in 7 seconds, before turning 90 degrees up a tower, producing about 6 seconds of micro-gravity before dropping the car backwards to earth. So what if the Dragster accelerates twice as fast?

I was turning all this over in my mind when the car finally rolled into the launch position to await a series of lights on the gigantic tower in front of me to count down red, yellow green...I didn't

realize the first time I rode it (yes yes, I went back) that the telltale moment is a slight rollback of the train. That's when the catchcar (a locking device — a strong one I was hoping), attaches a 1-inch diameter launch cable that tows the one-ton car 262 feet down the track, where the car will hit 120 mph before the cable releases and the car is launched forward to "coast" up the tower.

Sound effects

At rollback, the operators turned on the sound effects — the blaring sound of a racing engine shortly followed by the screeching of tires as a jolt rocks you back hard against the seat and a blast of air hits you in the face.

Most of the fools who had been holding their hands above

their heads firmly clutched the lap-restraint bar. I had just enough time to think to myself, "Gee that really wasn't so bad," when 2 seconds later, the catchcar stopped, and the car was detached and catapulted forward off the cable, producing a second, harder kick. We were about to make the 90-degree turn to race up the side of the 425-foot tower in front of me.

At the top, the car was suspended just long enough for riders to experience a Wile E. Coyote moment just before the ... 90-degree drop.

After all, I got to find out what it feels like to be a human cannonball, or a Navy pilot, without the cannon, gunpowder, helmet or parachute.

Taff Rice is a technology writer and attorney in the San Francisco Bay area. She can be reached at anitataffrice@earthlink.net.

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Short Takes

■ **Ping Identity** last week opened the beta program for the next version of its **PingFederate** server, which includes support for the newest standard identity protocols. The server's highlight is support for the Security Assertion Markup Language 2.0. The protocol, which was developed by the Organization for the Advancement of Structured Information Standards is seen as a technological leap over earlier versions of the protocol. General availability of the PingFederate Server with SAML 2.0 support is due in October.

■ **CyberGuard** recently announced **Webwasher Content Security Management Suite 5.2**, an upgrade to its URL and content-filtering software that runs on Windows, Linux or Solaris, as well as proxies that include Microsoft ISA Server. CSM 5.2, which costs between \$20 and \$30 per user, includes a way to run three anti-virus engines — McAfee, Computer Associates and Sophos — in parallel.

■ **Trend Micro** unveiled Trend Micro IM Security for Microsoft Office Live Communication Server along with new versions of its e-mail security product ScanMail for both Microsoft Exchange and Lotus Domino as well as an upgrade to its Portal Protect for Microsoft's SharePoint collaboration platform. Trend's security product for Microsoft's Live Communication Server instant messaging platform helps prevent worms such as Bropia, Kelvir and Fatso from using IM as a propagation method. Trend's updated ScanMail platforms add optional anti-spam and content filtering technology for Exchange and Lotus Domino. The new IM security product is priced at \$14.98 per user for a 501-user license. Also for a 501-user license, ScanMail is priced at \$19.20 per user for Exchange and \$21.20 per user for Domino. The updated Portal Protect is priced at \$17.92 per user.

Wireless growth strategy

Privately held Moseley grows wireless offerings through shrewd purchases.

BY JOHN COX

Proxim, a pioneer in wireless LANs, has become the latest acquisition by a company that plans to become the "GE of wireless" — a diversified global conglomerate with an array of wireless products.

The buyer of Proxim's assets is Moseley Associates, a quiet, lean, privately held company. Far from being a household name, Moseley nevertheless has everything that Proxim lacks: growth, profitability and most of all, a business strategy that's working.

The company says it had fiscal 2004 revenue of more than \$90 million, and \$20 million in earnings before interest, taxes, depreciation and amortization (EBITDA). EBITDA is taken as a rough measure of profitability, but it ignores such expenses as debt payments and capital expenditures. Proxim's revenue should boost Moseley to close to \$200 million.

Proxim last month declared bankruptcy and agreed to sell its assets to Moseley for \$21 million.

Moseley's strategy is the brainchild of its president and CEO, Jamal Hamdani, who led a management buyout in 1996. From the outset, his plan was to transform Moseley into a diversified wireless company from its origins as a supplier of digital wireless links for broadcasters.

Profile: Moseley Associates

Location: Santa Barbara, Calif.

CEO: Jamal Hamdani; led a management buyout to acquire Moseley in 1992. Previously held management jobs with General Research, the BBC and Philips Research Laboratories. Named "Entrepreneur of the Year" in technology in 2002 by Ernst & Young.

Business: Broadband wireless products over a broad range of spectrum for the industrial, carrier, and broadcast TV and radio markets; recently acquired bankrupt Proxim for \$21 million for its wireless LAN and carrier product lines.

Employees: More than 300, with 100 of them engineers.

Finances: The privately held company says 2004 revenues were more than \$90 million, and that it remains profitable.

Fun fact: Hamdani has lived or worked on four continents: Asia, Africa, Europe and North America.

"We don't believe it's good to be a one-trick pony," Hamdani says. "Think of [us] as a car with many cylinders: If we can get even just a few of them firing, we're in good shape."

Before buying Proxim, Moseley acquired three other companies, which are run as wholly owned subsidiaries: Microwave Data, bought in 2000, offers a range of fixed and mobile wireless products for industrial applications. Axxcelera Broadband, bought in 2001, has a line of broadband wireless data networking products. It will bring out a WiMAX 802.16 product later this year. CarrierComm, snapped up in 2002, offers

point-to-point wireless voice and data transmission products for the carrier market.

To this portfolio, Proxim will add corporate and hot spot WLAN products, and its Tsunami point-to-point and point-to-multipoint broadband offerings, widely used by cellular carriers to connect base stations with wired networks.

Hamdani declines to use the word "unsuccessful" to describe Proxim's efforts, following a merger with Western Digital in 2002, to offer a range of fixed broadband and WLAN equipment.

"Being a public company creates
See Moseley, page 18

Tacit gear optimizes WAN traffic

BY TIM GREENE

Tacit Networks is upgrading its WAN optimization gear to perform better for companies that want to support wide-area file services to data centers.

Tacit's I-Shared devices sit at either end of wide-area connections, streamlining transfer of data and caching files to reduce the number of times information has to cross the WAN from remote offices. As businesses consolidate server farms to save on hardware and maintenance costs, WAWS is becoming more important so end users at remote sites don't suffer intolerable delays because of constraints of WAN connections.

One upgrade Tacit has in the works will improve local caching so that if the WAN link goes down, remote users can access

files that have already been cached on their end.

Through the cache, customers also will be able to modify them and create new files. When the downed links come back up, I-Shared boxes will re-synchronize the files with the server where the files permanently reside.

The I-Shared devices can store 100G to 700G bytes of data, depending on the model. When the disks fill up, the devices purge those least used.

This upcoming feature is of interest to the World Bank Group because it would help keep staff working during what would otherwise be downtime, says Nasir Alizadeh, principal information officer at the bank. Even without the upgraded caching, performance on a T-1

link between Washington, D.C., and Chennai, India, improved with a Tacit box on either end, at least cutting transfer times in half, he says. In some cases, transfer times dropped from hours to minutes, he says.

Caching available on the Tacit gear now requires "lots of administration work" to let local users access the cache and to re-sync later, Alizadeh says. Connecting the offices is important enough that many of the bank's 107 sites have redundant WAN links to improve uptime, he says.

This Disconnected Operations mode also resolves any conflicts that might arise during an outage. For example, if users at different sites create new files with the same name while they are disconnected

See Tacit, page 18

IBM offers digital certificates to banks

BY CHINA MARTENS

IBM last week announced it is hoping to encourage banks to make more use of digital certificates through a tie-up with trusted identity company Identrus.

Identrus has certified Version 1.5 and higher of IBM's z/OS mainframe operating system so that users of the software can act as their own digital certificate authorities, eliminating potentially costly middleman certifiers.

The deal draws on previously unexploited embedded public-key infrastructure (PKI) capabilities of IBM's z/OS software. IBM first included PKI in Release 1.3 of z/OS in March 2002, but last week's announcement marks the first time the operating system has received the seal of approval of a certification authority.

"Setting up PKI infrastructure is nontriv-

ial," says June Felix, general manager of IBM Global Banking.

"We heard our clients say that it's important to make PKI as easy and as pervasive as possible," she says.

Crucial security

Enabling the secure transfer of financial information is becoming more crucial as the number of hacker attacks increases, she adds.

In addition to using digital certificates to verify partners' identities, some financial institutions are employing the technology internally as a way to confirm that they are communicating with what they believe are parts of their own networks, Felix says.

Charles King, principal analyst with Pund-IT Research, sees IBM's relationship with Identrus as a way for Big Blue to drum up

more business in the banking arena.

"IBM's mainframe solutions own about two-thirds of the financial institutions" with its eServer zSeries mainframes running z/OS, he says. "This is a nice enhancement allowing IBM to go to the one-third [of banks] it doesn't work with to offer them an operating system-based feature that obviates the need to work with third-party groups."

Identrus was established in 1999 by a group of global banks, including Citibank, Wells Fargo and the Royal Bank of Scotland.

The privately held company has more than 60 banks acting as Identrus Certificate Authorities, facilitating millions of transactions in more than 166 countries.

Smaller bank interest

While these Identrus members have tend-

ed to be the largest worldwide financial institutions, Felix expects an increasing number of smaller banks to also deploy PKI and digital certificates. She pointed to the Swift network, which over the next three years is adopting PKI as a common protocol to be embedded into the systems of the 7,000 banks it supplies with software.

IBM's news builds on earlier mainframe security announcements from the company, with more to come this summer, most likely in relation to identity and fraud management, Felix says.

The company also hopes to transition the technology to non-financial users, notably pharmaceutical and biotech companies, Felix adds.

Martens is a correspondent with the IDG News Service.

Moseley

continued from page 17

numerous pressures," he says. "It's difficult to move quickly in such a fishbowl. [As a public company] you have to present a particular view to the world, and spend time making sure that comes true."

But Proxim, which also acquired the Orinoco WLAN product line from Agere Systems, also was unable to execute a successful enterprise WLAN strategy.

Its presence in that segment steadily decreased, and Proxim consistently lost market share.

Hamdani says another pressure was caused by last year's court decision that levied \$26 million in damages and interest judgment against Proxim in favor of arch-rival Symbol Technologies.

Symbol had said that Proxim owed royalties on products sold using technology patented by Symbol.

Those pressures, at least, won't exist with Proxim operating as a Moseley subsidiary,

"Think of [us] as a car with many cylinders: If we get even a few of them firing, we're in good shape."

Jamal Hamdani, president and CEO, Moseley Associates

according to Hamdani. Proxim's previous rounds of layoffs have already "right-sized" the company, which still has more than 200 employees.

Furthermore, Proxim won't have the costs of being a public company or the large sums it had been paying out in real estate leases and the royalty payments to Symbol.

"Take out all that burden, and Proxim is a very viable company," Hamdani says.

For Proxim customers and partners, "it will be business as usual," Hamdani says. He pledges full support for the various product lines.

An unburdened Proxim will find new

purpose within Moseley's corporate culture, and new power in being able to execute its business plan, Hamdani says.

He cites "three pillars" that support Moseley: innovative management of technology, a deep understanding of customer needs and, "in my opinion the most important," compassion.

It all sounds rather like a New Age *Harvard Business Review* story, but Hamdani speaks with quiet conviction.

Innovative management of technology means having smart people who can understand a rapidly changing technical environment and keep pace with it.

To be successful, this understanding has to be wedded to an equally thorough understanding of what customers need.

But after all of this, he says, "if there's a certain harshness in you, if there's no caring, you won't get anywhere." Managers have to understand what is important to employees, customers and business partners. ■

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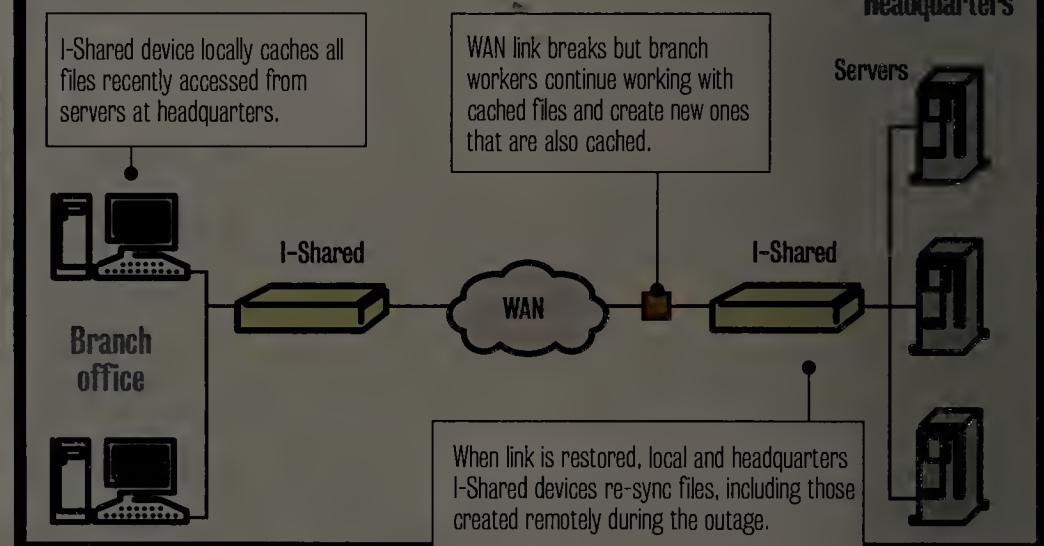
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Tacit upgrades cache

Tacit Networks will add new caching features to its I-Shared appliances so branch-office workers can keep working on centrally located files when the WAN fails.



Tacit

continued from page 17

from the server, the Tacit gear will recognize the problem and store them under different names, the company says.

Tacit says it also will accelerate TCP between its boxes. The upgrade will improve performance of TCP traffic by making the protocol restart faster after packet loss or congestion throttles it back.

Tacit faces competition from Cisco and its File Engine gear, as well as Juniper, which bought Peribit's WAN optimization technology earlier this year. Generalized WAN optimization companies such as Riverbed, Swan Labs, Expand Networks and Packeteer all have WAFS-specific products or plan them.

Tacit says by next year it will integrate

with umbrella management platform such as IBM's Tivoli and Microsoft's System Management Server to provide discovery, inventory, distribution, reporting and remote features for managing servers and desktops.

This will enable centralized rather than box-by-box management of large deployments of Tacit boxes.

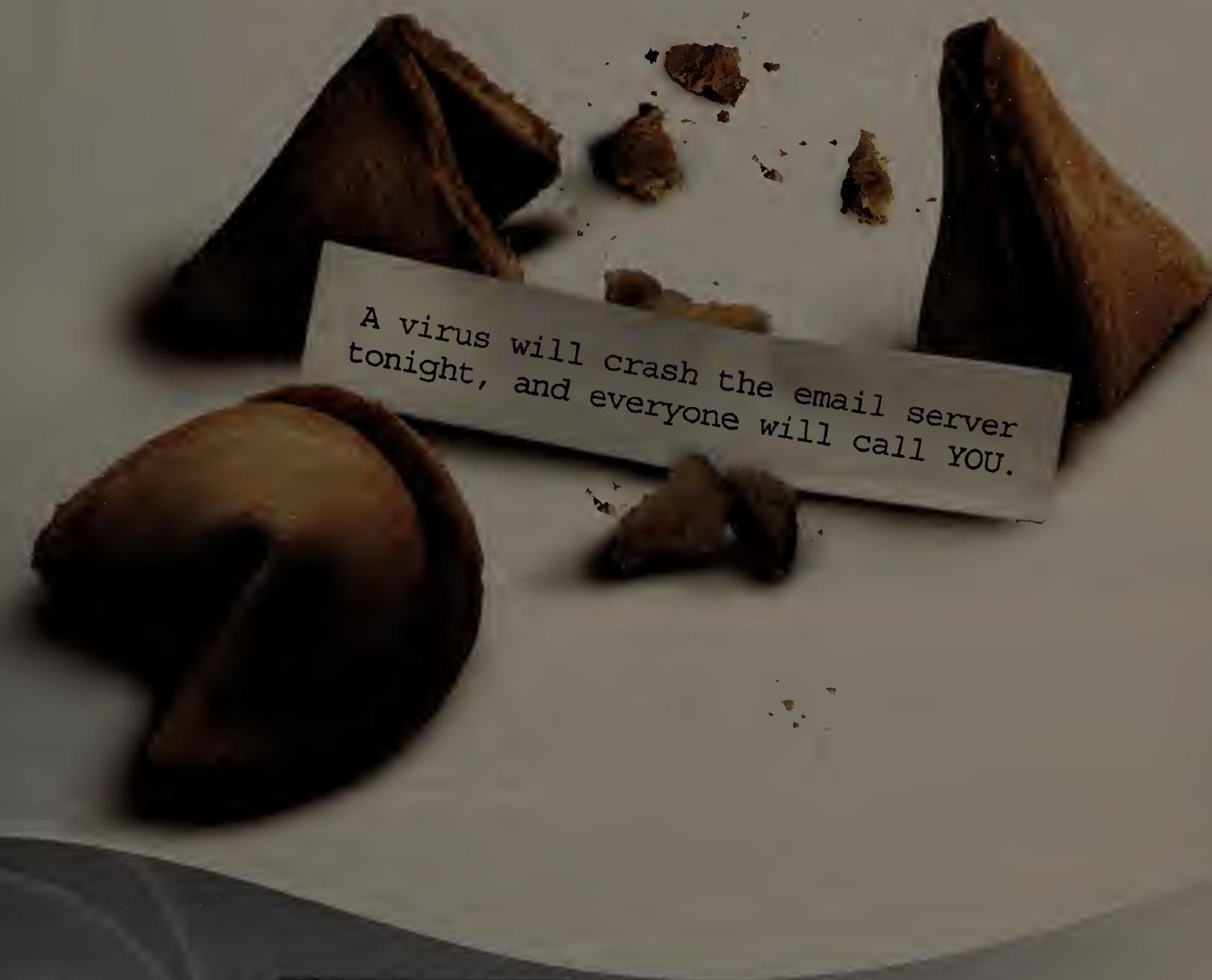
As the upgrades to the Tacit software roll out over the next year, they will be included with purchases made by new customers and will be software revisions for current customers.

I-Shared appliances are priced based on user licenses and cache size. An I-Shared with a 100G-byte cache ranges from \$7,500 for 10 users to \$37,500 for 300 users. A 300G-byte cache costs \$5,000 extra, and a 700G-byte cache costs \$10,000 extra. ■

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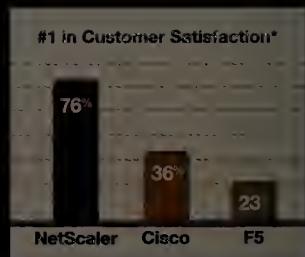
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The ABC's of AMD vs. Intel

BY JENNIFER MEARS

Advanced Micro Devices, the underdog in the explosive x86 processor market, is taking its giant rival Intel to court. In a complaint it filed late last month, AMD claims that Intel has used illegal tactics, including threats, coercion and monetary incentives, to keep systems vendors from embracing AMD's competing product. "AMD's market share has not kept pace with its technical leadership. Intel's misconduct is the reason," AMD claims in the 48-page complaint it filed in U.S. District Court in Delaware June 27. AMD is demanding a trial and aims to get the case in front of a jury by the end of next year. We spoke with industry and legal experts to get more detail on some key issues:

Why is AMD suing Intel?

While AMD has stepped up innovation with its 32/64-bit Opteron processor and its Athlon 64 chip for desktops, it continues to hold just a slice of the x86 processor market. Meanwhile, Intel's sales accounted for 90% of the revenue in the \$5.8 billion market in the first quarter, according to IDC. AMD says Intel has used this market dominance to limit competition — and thus stifle innovation and ultimately hurt the consumer with higher prices and lack of choice. In its complaint, AMD lists 38 companies that it says have been economically coerced

by Intel to avoid — or limit their purchase of — AMD's products. In the case of Dell, the only Tier 1 systems vendor not to carry AMD-based products, for example, the complaint states, "In discussions about buying from AMD, Dell executives have frankly conceded that they must financially account for Intel retribution in negotiating pricing from AMD."

Why is AMD suing now?

This is not the first time AMD has taken legal action against Intel. In fact, AMD filed a similar complaint in 1991. That case was resolved as part of a global settlement of all outstanding litigation between the two in 1995. This time, however, some industry experts say AMD might have stronger footing. While the chip maker was clearly the underdog in the mid-1990s, its success with its 32/64-bit Opteron chip and Athlon 64 processor, as well as its dual core technology, make AMD a more formidable competitor. In addition, the ruling in March by the Japanese Fair Trade Commission finding Intel's conduct there anticompetitive might give AMD's claims more weight in the U.S.

What could the outcome of the case mean to network and IT professionals?

Industry experts caution that it could be quite a while before an outcome is reached. When it is, it's unclear exactly how it will impact end users. If AMD wins its case, then it will be good news for technology buyers. AMD claims that Intel's discounting practices

and sweetheart deals are hampering competition and putting products on the market at higher, monopoly prices. An AMD victory would mean more freedom of choice, likely driving down prices. On the other hand, some industry observers note that Intel might argue that its processors running Windows have been the very reason why PCs and servers have been commoditized: Since vendors are offering very similar products, they must differentiate themselves on price.

What could the outcome mean for PC and server makers?

If it's found that Intel has been engaging in illegal practices, it could mean the end to the sweetheart deals for Intel customers. That would be bad news, at least in the short term, for OEM bottom lines. But AMD says that over the long term, its victory would restore a true competitive marketplace, which would drive down microprocessor prices.

How difficult will it be for AMD to prove its claims?

The bulk of AMD's evidence has to do with Intel's dealing with third parties. As a result, AMD will have to identify through the court's discovery process the people who dealt with Intel, take depositions and get documents illustrating the anticompetitive behavior. AMD has little control over what such witnesses will say. But AMD has already scored a victory in this area. Last week, AMD said that the U.S. district court had granted its request for documents from nearly three dozen computer companies be preserved for use as evidence in its case. ■

WIRED WINDOWS
Dave Kearns



Taking RSS up a notch

Atom (DocFinder: 7938), the latest incarnation of a syndication protocol adopted by, among others, Google for its Blogger.com site.

What RSS and Atom do is allow syndication of XML-enabled data. You use what's called a news "aggregator" to subscribe to and periodically poll RSS sites for new stories. It's a great way to keep up with blogs, but it's also useful to keep abreast of technical information, such as Novell's Technical Information Document database (DocFinder: 7939). Vendors could use it to keep you informed about fixes, patches and updates.

It's not new and it's not rocket science. You can do it today on any platform. There are stand-alone aggregators, e-mail client plug-ins, Web browser plug-ins and tool kits so

you can roll your own. For Microsoft to roll it into the operating system is no more revolutionary than including a Web browser or an e-mail client — something they've done for many years.

There also seems to be a lot of noise (primarily generated by the Gartner Group) claiming that adding RSS will open up many new security holes in Windows. Of course, they also include "spam" when they talk about security, so I'm not sure they really know what they're about. Yes, you could get spam in an RSS feed, but only if it were posted to a site you subscribe to. It's that site, not the RSS, which needs to be secured.

As for allowing new malware to enter your computer, an RSS feed is just a stream of XML data — like all Microsoft Office doc-

uments will be starting with the next release.

Either it's the silly season or there hasn't been enough bad news lately!

Kearns, a former network administrator, is a freelance writer and consultant in Silicon Valley. He can be reached at wired@vquill.com.

Tip of the Week

I saw a preview of Microsoft's new *Virtual Earth* last week, the latest product to come from its MapPoint division (DocFinder: 7940). This is going to be really neat!

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Short Takes

■ Oracle has reached a deal to acquire privately held **ProfitLogic**, a developer of software for the retail industry. Financial terms of the deal were not disclosed. The acquisition comes on the heels of Oracle's April purchase of retail ERP software maker Retek. ProfitLogic's software analyzes factors such as inventory, pricing and promotions to help retailers optimize their financial strategies. Its customers include Sears, Roebuck & Co., Bloomingdale's Inc., J.C. Penney and Burlington Coat Factory. Pending regulatory approvals, Oracle expects the deal to close by the end of the month.

■ NLayers this week will update its flagship product to support passive and active monitoring. **InSight 4.0** is a network-attached appliance that sniffs packets, discovers application conversations and builds a topology model displaying application dependencies among servers, end users and network devices. The new add-on module lets customers selectively drill down to get more data from specific servers and the applications running on them. NLayers InSight starts at \$95,000. The Active Discovery Module starts at \$50,000. Both prices scale up based on the number of servers and nodes. Version 4.0 will be in limited availability starting this week and then generally available in early August.

■ Privately held Concerto Software is to acquire **Aspect Communications** in a deal valued at \$1 billion that could create the world's largest call center products and services company, the companies announced last week. The duo hope the tie-up will better position them to expand their presence in countries where call centers are rapidly growing, notably Latin America, India, the Philippines and China. Concerto specializes in outbound dialing and unified call center software, while Aspect focuses on call center workforce management application and performance analytics.

Lotus overhauls Notes client

BY JOHN FONTANA

Even though Notes/Domino 7.0 isn't due for the next few months, IBM/Lotus has uncharacteristically put in motion its next significant platform overhaul that will fully merge the traditional Notes client with new Java-based technology.

The intent is to give users a single client that can access messaging features, Notes applications and non-Notes applications running on IBM's middleware.

Last month, the company showed off that client, code-named Hannover, which is slated to go into beta early next year.

The client, once tagged with the name Notes 8.0, is the culmination of two years of work to integrate the Notes client with IBM's Java-based Workplace Client Technology (WCT), a "rich client" framework that includes a small database, a run-time environment and a synchronization technology that supports clients and middleware servers sharing application processing chores.

Hannover will not only expand traditional messaging centric concepts such as the in-box, calendaring and scheduling, but also will be but one component running inside the WCT framework supporting both traditional Notes applications, new era composite applications and combinations of both.

"Hannover is not an incremental upgrade of Notes," says Ken Bisconti, vice president of Workplace, portal and collaboration for IBM/Lotus. "This is a considerably accelerated investment in Notes. We now see how we will technically implement, in the future for Lotus Notes users, the potential value of the Workplace Client Technology and other recent innovations."

Transitional moment

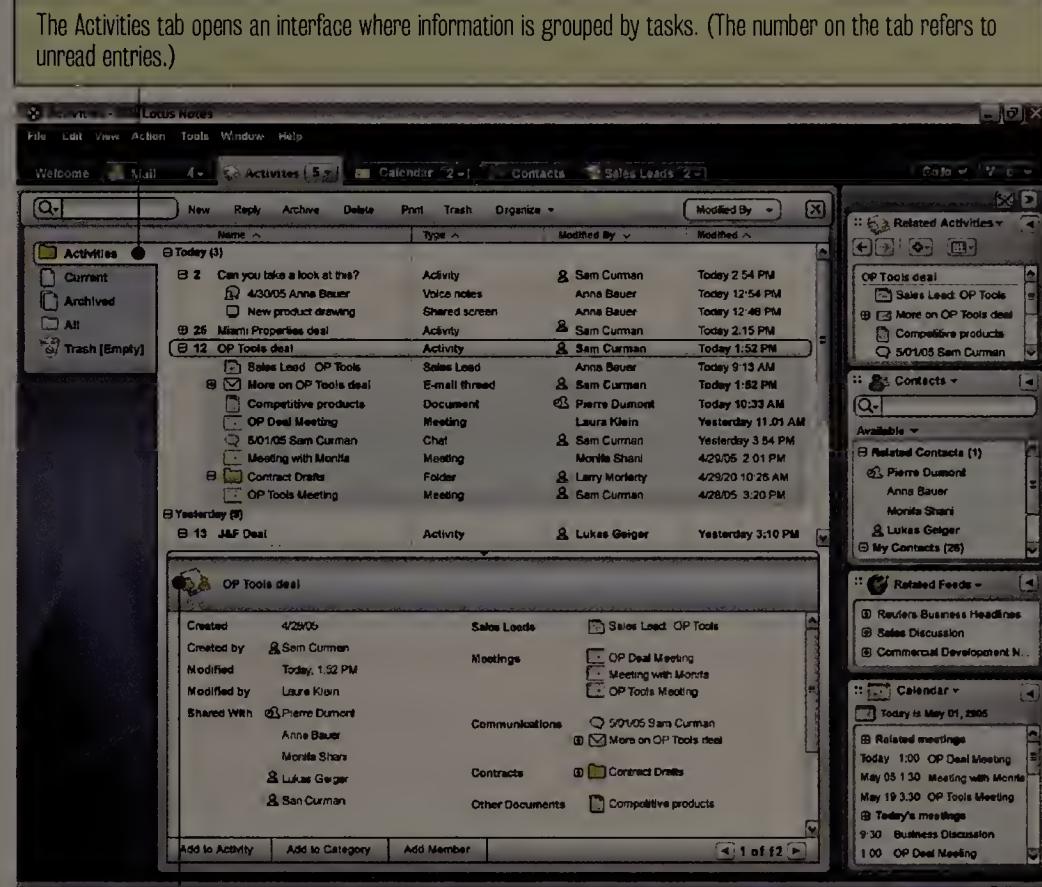
For Notes/Domino users, Hannover represents the start of what will be a transition to IBM's WCT as a front end for either Domino or Workplace, a Java 2 Platform Enterprise Edition (J2EE)-based component platform that marries the rich client with WebSphere application server, Workplace components such as Workplace Messaging, and the DB2 database.

The middleware backbone is what companies can use to deploy Web services and build service-oriented architectures.

"Whether you want it or not, you are getting Workplace Client Technology," says Matt

New look

IBM/Lotus plans to introduce a new Notes client in late 2006 or early 2007 that supports what it calls "activity-centric" computing, which is the ability to organize data from various sources around specific tasks.



An "activity" can contain various documents, including calendar entries, e-mails, online workspace information and chat threads.

Cain, an analyst with Gartner. "There is nothing forcing you to use WCT components if you are just going to run it against a Domino back end." Cain says users with Workplace or J2EE servers on the back end will have multiple options for using Hannover.

"Clearly with Hannover, what we see is IBM on the front end blending in its Workplace Client Technology and therefore kick-starting longer term migrations to Workplace services on the back end," Cain says.

Cain says in the short term the question is how much of the new Hannover feature set will be available to those running only Domino.

"At this point that is an unknown. If it takes the addition of a Workplace server on the back end to expose new feature sets in the

Notes client component of Hannover then obviously that is a more substantial undertaking for Domino shops because it essentially forces them into Workplace," he says.

IBM/Lotus says Hannover has plenty for Notes users, including the new "activity-centric computing," which is the process of organizing data from various sources around specific tasks, such as a sales project, as opposed to searching for that data within various silos such as calendars, in-boxes or discussion threads.

Final manifestation

It is IBM/Lotus' final manifestation of what it and rival Microsoft refer to as "contextual collaboration," which allows users to stay in one interface while accessing multiple application services.

See Lotus, page 24

**NET INSIDER****Scott Bradner**

Early in the morning of July 4, NASA purposefully crashed an 820-pound chunk of metal into a comet at about 23,000 mph. The flight of the Deep Impact probe, which started in early January as the third part of a billion-dollar mission, was designed to see what makes up a comet.

Just a week earlier, the Supreme Court had a chance to strike the recording industry hard enough to see what it is made of, but struck a glancing blow instead. Maybe, over the next few years, its Grokster decision will be seen as a meaningless cul-de-sac.

Lotus

continued from page 23

IBM/Lotus is focusing those innovations in four distinct areas: improvements in e-mail calendar and the addition of presence technology to contact management; introduction of activity-centric computing; extending the application qualities of the Notes platform to support composite applications based on open standards; and delivering it all in a managed environment that companies can tailor to suit their business.

The activity-centric computing is perhaps the biggest change. It allows users to organize data from multiple sources into a single project or activity. For example, a user could collect e-mail threads, chat logs, documents and online workspace data into an activity and invite users to share that information or subsets of that information. An "Activity" tab within the client allows users to look at those activities in a single pane.

There might be that value, but according to experts it is no coincidence that the introduction of Hannover and its proposed ship date, in late 2006 or early 2007, coincides with Microsoft's planned release of Office 12 and Longhorn client, which is a cornerstone for real-time collaboration services, component-based application delivery and support for contextual collaboration.

"Microsoft is continuing a strategy of putting more client interfaces in front of their end users," Bisconti says. "We don't think this is the method of achieving productivity gains and improving the way people work."

A meaningless win?

The Grokster saga has taken a lot longer than the Deep Impact mission and is not yet over. In May 2003, I wrote about the original summary judgment that said Grokster was not liable for copyright violations (www.networkworld.com, DocFinder: 7930), then again about a year later when an Appeals Court upheld the original decision (DocFinder: 7931).

Now the Supreme Court has spoken a non-final word (DocFinder: 7932), deciding that Grokster could be liable for the copyright violations of its users. That is, if Grokster distributed software "with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement, going beyond mere distribution with knowledge of third-party action."

The Court found enough evidence of fostering infringement to overturn the original summary judgment and send the case back for a trial on the merits.

I had hoped that the court would uphold the original judgment. Not because I'm anti copyright: as an author and a longtime observer of tensions over copyright in the Internet age (see DocFinder: 7933), I support the original purpose of copyright as articulated in Section 8, Clause 8 of the U.S. Constitution (DocFinder: 7934).

I am not a supporter of the endless extensions of copyright that have been a feature of our government for the lobbyists for far too long. Nor am I a supporter of the entertainment industry's myopic focus on shooting messengers rather than developing new messages. I was hoping the

Supreme Court would strike a blow to the entertainment industry that would have forced it to wake up and actually do some thinking about ways to provide services to its customers — not just serve papers on them.

But the court decision might be as meaningless as Hilary Rosen, former head of the Recording Industry Association of America, asserts it will in an interview published in *The New York Times* on July 4.

The decision, and the forthcoming court case (assuming Grokster does not just fold its tent and fade away, leaving its software alive, spreading and likely unstoppable), are far from the last words on this topic. The lawsuits against new technology will continue, at least until some clarity is developed over what steps constitute fostering

infringement. The sharing technology will also continue, and if the next developer very carefully does nothing overt to promote illegal sharing, the software will not violate the Supreme Court's guidelines.

The legal playground might also change significantly. Marybeth Peters, the U.S. Register of Copyrights, has proposed significant changes to basic copyright law (DocFinder: 7935). Maybe we will get a Deep Impact on the industry after all.

Disclaimer: Harvard was involved in Deep Impact (DocFinder: 7936), but I know of no university opinion on the impact of the Grokster decision.

Bradner is a consultant with Harvard University's University Information Systems. He can be reached at sob@sobcom.com.

Road to Hannover

Despite having yet to release Version 7.0 of its Notes client, IBM/Lotus is already talking about the next version of the client, code-named Hannover, which will integrate the software with IBM/Lotus' Java-based Workplace Client Technology.

Timeline	Client version
January–March 2005	Notes/Domino 7.0 Beta 3, Notes 6.0.5, Notes 6.5.4
July–September 2005	Support ends for Notes 5.0, Notes/Domino 7.0.
January–June 2006	First Hannover preview at Lotusphere. First public beta of Hannover.
October 2006–June 2007	Notes Hannover.

So while Hannover represents a major investment for IBM/Lotus to update and upgrade its Notes client, it also signals a new round in its battle with Microsoft, one which started over messaging servers but now includes the fight to provide a powerful client to support service-oriented computing environments.

"The way we look at the world of trying to improve information work is that it starts with the people. We start where they work and with the way that they work," says Dan Leach, group product manager for Office. "It's the ability to use whatever client you use and have a rich capability to tie into back-end services. We are confident going into this next round. It's an opportunity for us to talk to Lotus customers."

Microsoft's CRM package targets small businesses

BY PETER SAYER

Microsoft will release a new version of its CRM software around year-end. With the new version will come a special edition for small businesses, a subscription-based license for hosting services, and support for more languages, including Chinese and Arabic.

The software will come with two new modules: one to automate the management of direct marketing campaigns; and one to manage complex personnel and resource scheduling requests, the company says. The new version is a great leap forward in at least one other respect, as the company is moving directly from Version 1.2 and numbering the new Version 3.0.

One treat, coming up

The new version includes a treat for reseller partners: Microsoft says it will reduce the time and effort required to create tailored versions of the software for vertical markets, or to integrate it with other applications. Partners will be able to obtain the necessary software development kit for CRM 3.0 through the Microsoft Developer Network later this year.

Customers will be able to buy and run the CRM 3.0 tool in two ways: either as a packaged product they run themselves,

or as a hosted service they pay for through the new subscription-based license. They'll be able to change their minds later, too, as the code for the hosted and on-site versions will be the same — only the license will change, Microsoft says.

The company hopes small businesses using Windows Small Business Server 2003 Premium Edition with Office Outlook 2003 and Business Contact Manager will upgrade to CRM 3.0 Small Business Edition (SBE). This will add the new features of the CRM suite while retaining the look and feel of the Outlook e-mail and workflow client, the company says. It will announce pricing for CRM 3.0 SBE nearer to the launch date.

Microsoft will release CRM 3.0 to current users in the fourth quarter, and sell it to new customers in the first quarter of next year, it said. The new version will add support for seven new languages, bringing the number supported to 23.

Also last week, Microsoft reiterated that it plans to ship its SQL Server 2005, Visual Studio 2005 and BizTalk Server 2006 products on Nov. 7, with launch events planned in 50 countries.

Sayer is a correspondent with the IDG News Service.



REPELS INTRUDERS, EMBRACES SIP PROTOCOL

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EYE ON THE CARRIER
Johnna Till Johnson



As Mark Twain famously said, there are three kinds of lies: lies, damned lies and statistics. Want proof? Check out the federal appropriations bill for funding the National Science Foundation in 2006. The administration proudly boasts a roughly 2% increase in NSF funding, which rises by \$128 million to \$5.6 billion (see www.networkworld.com, DocFinder: 7941).

In a year of burgeoning deficits and dramatic belt-tightening, that sounds pretty good, at least compared with last year, when the administration actually cut the NSF's budget by \$100 million. But check out the fine print. Of the proposed \$132 million increase, just \$113 million is earmarked for research and related activities (R&RA) — the "meat and potatoes" budget from which the NSF pays researchers. Moreover, nearly \$50 million of this so-called R&RA increase is accomplished by asking the NSF to assume operations and maintenance of the

Why government R&D matters

polar ice-breaking fleet (previously handled by the Coast Guard).

Setting aside the amusing image of lab-coated scientists piloting ice-breaking vessels (and where do I apply for that job, anyway?), that leaves just a \$65 million increase for true research — not enough to bring research expenditures back up to 2004 levels, let alone increase them. And it's nowhere near the proposed \$8.5 billion investment for the NSF authorized in December 2002 (but never instantiated).

Why should you care?

Two reasons. First, the evidence is in: Research in science and technology demonstrably pays off big-time in terms of economic growth and prosperity. A recent study created for the U.S. Small Business Administration cites quantitative data showing that university research directly leads to the creation of new businesses

(DocFinder: 7942). The report's key finding: "Research universities and investment in R&D are major factors contributing to economic growth."

Second, the NSF in particular has a pretty good track record when it comes to driving technology innovation. Let's not forget how the Internet ratcheted into high gear once the NSF took over its operations in 1986. I was using it for particle physics research at the time, and I distinctly remember the improvement.

Moreover, the NSF is remarkably efficient: More than 95% of its budget supports actual research, with only 5% going to overhead. Few privately operated charities can say the same.

And failing to make this investment carries its own risks, in the form of reduced innovation, lowered competitiveness and diminished prosperity. As Newt Gingrich put

it in May 2002: "The danger from under-investing in science ... [is] greater than the danger of any conceivable conventional war."

So here's the deal. If you agree with me please do more than drop me an e-mail — send letters, and make phone calls, to your elected representatives. The Senate is currently reviewing the 2006 budget for final approval; there's not much chance of significant changes at this late date, particularly given the imminent summer recess. But when Congress returns in September, technology investment for 2007 and beyond should be front and center on the agenda.

Our future depends on it.

Johnson is president and chief research officer at Nemertes Research, an independent technology research firm. She can be reached at johnna@nemertes.com.

Short Takes

■ **CenturyTel**, a competitive local exchange carrier, has announced that it has completed its \$65 million acquisition of **KMC Telecom Holdings**. With the purchase, CenturyTel, which offers business and residential services in mostly rural areas of the U.S., is expanding service in 11 states: Alabama, Indiana, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Ohio, Tennessee, Texas and Wisconsin, adding to CenturyTel's 26-state geographic reach.

■ A study released last week by instant messaging security vendor **IMlogic** reported hackers and virus writers are recognizing and exploiting opportunities presented by IM-based attacks, which have risen sharply over the last two quarters. The number of IM attacks has increased from 20 for all of 2004 to 571 in the second quarter of 2005 alone.



A leading wholesale provider of telecom services, WilTel Communications has been pursuing the enterprise market directly as a next-generation ISP for the last two years. Network World Senior Editor Carolyn Duffy Marsan spoke recently with WilTel CEO Jeff Storey about the company's enterprise strategy and its critical but changing relationship with SBC. Here are excerpts from their conversation:

What success has WilTel had in its push into the enterprise market?

We target the type of customers that need a wide-area networking specialist that will engineer a solution specifically to meet their needs. They need capabilities that other carriers can't bring. They need access to people and resources that other carriers won't bring. ... We have Lava Trading, a firm that handles 20% to 25% of all the trades on Nasdaq. That's certainly a company where the network is a key, critical component of the business that they operate. Another recent win is ING, a large insurance company where data is absolutely critical to their success.

We have all the capabilities to support enterprise customers very successfully. We're good on the data side, with MPLS, private-line and IP services.

We had a great voice business on the wholesale side, supporting 5 billion minutes per month. Now we're offering voice services to both our government and enterprise customers. Vonage is one of our largest voice customers. ... We don't release numbers about our growth in enterprise sales, but our revenues are continually going up. And with only 2,000 employees, we have a cost structure that's remarkable.

This year, WilTel announced Ethernet and storage services for the enterprise market, as well as new voice services. Can you explain the significance of these in terms of building WilTel's share of the enterprise market?

Storage-area networking is very important. Our Vyvx subsidiary is the leader in the transmission of broadcast-quality video over fiber for the media and entertainment business. We want to be the Vyvx of storage-area networking. Ethernet — both managed and unmanaged — is just the way the world is going. Voice services are part of the portfolio that an enterprise wants to buy. These services fill out our portfolio so enterprises can do one-stop shopping.

What other enterprise services does WilTel have planned for 2005?

We're going to continue to grow our IPVPN services. We're going to continue to expand on storage-area networking and Ethernet products. And we're going to focus very specifically on professional services and managed services for our cus-

See WilTel, page 29

WilTel CEO talks strategy

SPECIAL FOCUS

MSSPs: MARKET CALLED MATURING

Users bank on managed security services

BY DENISE PAPPALARDO

More enterprise business customers are turning to managed security service providers to help them cope with the complexities of network security, especially when it comes to intrusion prevention.

MSSP offerings are expected to generate about \$1 billion in spending this year, says Allan Carey, a program manager for business and continuity services at IDC. The \$1 billion is part of an overall security services spending projection, which includes consulting, training, implementation and MSSP costs, of about \$7.4 billion for 2005.

Security audits and regulatory compliance are just two of the reasons organizations are more interested in MSSP offerings, says Kelly Kavanagh, an analyst at Gartner. MSSP services can help with audit compliance through documented monitoring, reporting and remediation, he says.

Users have become more willing to outsource their security needs to a third party. "Over the past couple of years enterprise customers have become more comfortable with the level of maturity in the MSSP market," Carey says.

Many organizations also don't have the capital to deploy the hardware and software necessary to support their own intrusion detection, intrusion prevention, anti-distributed denial of service or other security services, he says.

Compliance was one of the key reasons why Boiling Springs Savings Bank switched to MSSP Perimeter Internetworking, which specializes in offering managed security services to small banks.

Boiling Springs is a \$1.1 billion thrift with 14 locations in northeastern New Jersey that uses Perimeter's intrusion-detection services, says Kenneth Emerson, director of strategic planning and CIO. Emerson says he sold the board of directors on Perimeter's services by explaining that they are essentially an "insurance policy against lost customer confidence."

About three years ago Boiling Springs turned to Perimeter to shore up the bank's security support. Emerson says he had an ISP that knew security but didn't have a Level II Statement on Auditing Standard (SAS) review. This is a specialized audit that verifies a company's operational and internal controls over processing user transactions.

"It's up to me to engage a firm that has a SAS 70. If they don't, then it's up to me to have one done. They're expensive — about

Security services gaining steam

U.S. spending expected to grow almost 20% annually over next five years.

Users (in billions)



\$30,000 to \$50,000," Emerson says. "My ISP said they were looking into having one, but I needed something more proactive."

Perimeter had the required audit.

Emerson says banks also are required to have annual penetration tests, which cost about \$12,000 to \$15,000. But because he's using Perimeter's intrusion-detection services and has no outward facing hosts to the Internet, he's covered.

The bank has a centralized network set-up with all traffic coming through its headquarters in Rutherford. Boiling Springs has a dedicated frame relay connection to Perimeter from its headquarters and another to an ISP. In a hub-and-spoke architecture, each branch also has a dedicated frame connection to Rutherford. There is an ISDN backup at each site.

While AT&T provides the frame relay services, Perimeter actually worked with the carrier to have the services deployed and maintained, which was also an advantage because it reduces finger-pointing, he says. Emerson says Perimeter's services are expensive, but that the bank saved money by teaming with a provider that had the appropriate audits in place and by eliminating the need to do penetration tests.

Other users are going with MSSPs to help manage intrusion-prevention systems. Intrusion-prevention services add an additional

level of complexity, analysts agree, primarily because of the high number of false positives they produce.

Exchange Bank, a savings and loan with 20 branches in Sonoma County and headquarters in Santa Rosa, Calif., was using intrusion-detection services from SBC before the bank switched to Internet Security Systems (ISS). "Security was a sideline business for them and they weren't doing a very good job," says Bob Gligore, information security officer at the bank.

"I would come in in the morning and look at our overnight reports and it would scare the hell out of me," he says. "I would call [SBC's] security network operations center and say, 'Why didn't you call me? Did you block this attack?' And they would say they assumed I probably had the patches."

"I don't need a nice report of all of the bad things that happened while I was sleeping. I want my MSSP to actively protect our network," he says.

Switching to ISS' managed intrusion-prevention and managed firewall services about a year ago provided that. "Each morning I get reports on ISS' portal on what actions were taken overnight. The service is constantly getting upgraded, which saves me so much time vs. having to stay on top of security changes myself," he says.

The bank hasn't been the victim of many

attacks, but they do see a lot of scans.

"The first time I got a call from ISS was when we were working on a new Web trading tool that ran a legitimate scan of our network," he says. They called to see if the scan was malicious, he says.

Exchange Bank selected ISS primarily because of its success in detecting computer vulnerabilities and also because it has worldwide coverage, he says.

Gligore says he believes his network is better protected because ISS sometimes knows about vulnerabilities long before other security vendors.

"We couldn't hire one person for what we're paying on our managed service contract," Gligore says. The bank would likely have to hire nine people to have 24/7 coverage.

In addition to Perimeter Internetworking and ISS, there are security software and hardware companies that offer managed services such as Symantec and VeriSign. Then you have AT&T, MCI, Sprint and Equant, which are telecom veterans offering managed security services, although MCI now is somewhat different since it acquired MSSP NetSec earlier this year.

Then there are the big IT services firms such as Electronic Data Systems, Computer Sciences Corp., SAIC and Unisys, which all have managed security offerings.

And the niche or smaller players that only offer managed security services and some only to specific vertical markets, including Counterpane Internet Security, Perimeter Internetworking and Lurhq.

"There is no one best firm for anyone because each goes after different areas and customers with a slightly different emphasis on services," Gartner's Kavanagh says.

IDC's Carey expects more advanced services from the MSSP market in the next 18 months and more industry consolidation.

Consolidation is one reason Gartner advises users to select an MSSP carefully. There are three areas users should consider: financial stability, breadth of services and Web-based tools.

An MSSP should have a "run rate of \$20 million" in contract revenue to cover growth, according to the analyst firm. Users also should look for a service provider that has a wide variety of security services, including managed firewall, intrusion detection and prevention, consulting, anti-viral, vulnerability scanning and mitigation services.

The provider should offer a robust Web portal and a variety of reporting and monitoring tools, Gartner says. ■

Q&A

WilTel

continued from page 27

tomers. I think there's an opportunity to help clear up the networking confusion for our customers. We're also going to expand our voice products and our integrated access.

How much of WilTel's enterprise revenue is direct vs. through subcontracting deals with foreign carriers such as KDDI?

It's a mix. Historically, we've only been in the enterprise market through our wholesale arrangements. There are some wholesale customers that buy great big pipes and do finished services on top. There are other customers that work with us. We provide the enterprise services under their banner and their name. KDDI and SBC are two of these. We've been winning enterprise customers in both ways.

SBC is WilTel's largest customer, representing 70% of its revenues, according to analysts. Can you explain the significance of the new master services agreement WilTel recently signed with SBC?

The agreement means several things. It is a testimony to the quality of the service that we provide that it was important to SBC to sign up for a new master services agreement. With their intention to buy AT&T, certainly they're going to move traffic they have on our network to AT&T. This agreement is intended to make sure that they provide the same quality of service to their customers [during the transition].

From a stability standpoint, we've been making this transition into the enterprise and government markets for the last 18 months to two years, but it takes a long time. The primary revenue we get from SBC is long-distance voice. We've known for a long time that was going to go away, whether it was going VoIP or to AT&T. Our strategy has been to launch into these other markets with other products so that as the SBC business goes away, we can continue to grow and be healthy. Before the timeline was always vague. This [agreement] puts clar-

ity around the timeline because this is a five-year deal.

Having this [agreement] gives us a leg up on enterprise deals. We can very clearly sit down with customers and talk about the health of our financials. When you compare our cash growth to any of our competitors, you will

see that WilTel has outperformed everybody else.

What's WilTel's strategy for surviving and thriving in the midst of all the telecom mergers?

One of the things we have learned that has become part of our culture in the last three years

is a disciplined financial approach. There are a lot of companies out there trying to grow revenue without regard to whether it's good revenue or bad revenue. We pass on bad business. We focus very closely on winning good quality customers. We're going to be very aggressive

at looking at consolidation opportunities. We want to participate in the consolidation without doing something stupid. We think we'll have the opportunity to roll up a lot of good providers or good offerings. I'm not predicting anything. We're going to be very disciplined about it. ■

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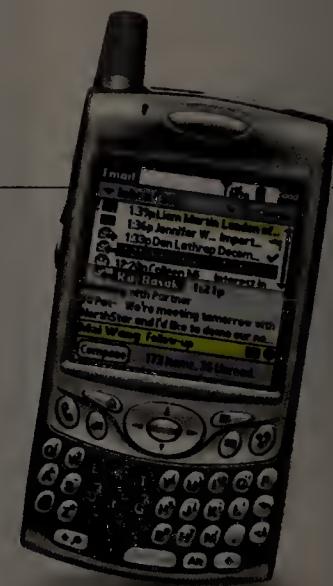
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TECHNOLOGY UPDATE

■ AN INSIDE LOOK AT TECHNOLOGIES AND STANDARDS

Multi-radio design boosts mesh nets

BY CYRUS IRANI

A mesh wireless network node must perform three functions: serve client devices, receive traffic from another mesh node (mesh ingress) and transmit traffic to another mesh node (mesh egress). Single-radio nodes (or even dual-radio nodes, in which one radio is used for client devices and the other for mesh backhaul) pose performance problems and hinder scalability.

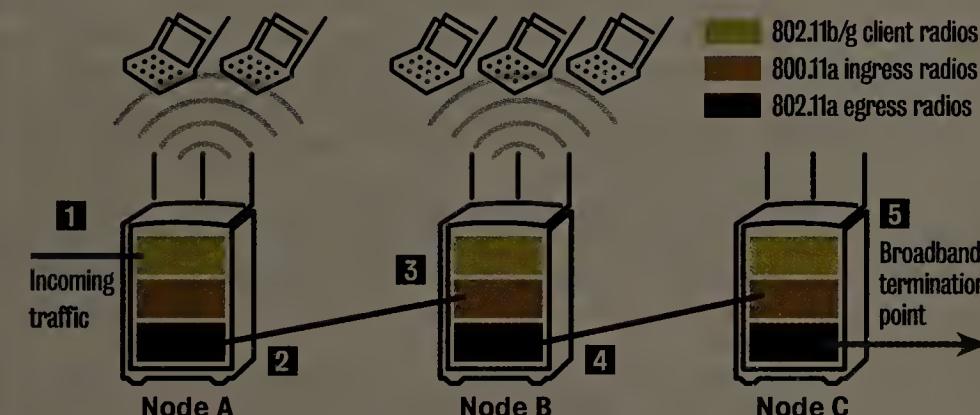
Multi-radio mesh technology solves this problem for large-scale wireless deployments, particularly those in which real-time applications require roaming voice, video and data. Radios are dedicated for each function in the mesh — backhaul ingress, backhaul egress and client access. This provides dedicated mesh links for backhaul traffic and client coverage. 802.11a is generally used for backhaul traffic, and 802.11b/g for client coverage.

When a single-radio mesh is used for both incoming and outgoing traffic, throughput is halved because a radio cannot transmit and receive simultaneously and must swap roles. Another problem is that every mesh link must be on the same radio channel. That means when one radio is transmitting, its neighbors must all be in listening mode. This problem is amplified across the mesh, and after a few hops the architecture is slowed to the point where it no longer efficiently supports voice or data.

However, a wireless multi-radio, or structured, mesh approach offers several dedicated-link interfaces and at least three radios per network node. Because each radio performs only one function, there is no role swapping, eliminating throughput

HOW IT WORKS: Multi-radio mesh network

Multi-radio mesh networks dedicate radios for each function in the mesh — backhaul ingress, backhaul egress and client access.



- 1 Node A's ingress radio receives traffic from all the clients that are attached to it.
- 2 The traffic is immediately switched to Node A's egress mesh radio even before all the packets have been received. The egress mesh radio sends to the next optimal node for relaying — in this case, Node B.
- 3 Node B's ingress mesh radio receives the incoming traffic from Node A's egress mesh radio (and also typically from multiple other egress radios in other nodes).
- 4 All Node B traffic (incoming mesh and client devices' packets) is switched to Node B's egress radio. Node B's egress radio transmits traffic to Node C.
- 5 Node C's ingress radio receives the traffic and switches all traffic to the wired network.

degradation. Multi-radio mesh networks allow for dedicated backhaul links that can transmit and receive simultaneously because each link is on a separate channel.

A typical mesh configuration might have six or more radios in a single node that can be allocated between serving client devices, mesh ingress and mesh egress. This six-radio wireless network node can sup-

port up to three user-access radio modules in the 2.4-GHz or 5-GHz band and up to three backhaul radio modules in the 2.4-GHz or 5-GHz band.

The ingress radio must be designed to receive associations from wireless clients (user access) or other mesh nodes (egress) in separate radios. The egress radio must create a link to another mesh node for

relying backhaul traffic, based on the best possible path to the wired network, or broadband termination point. Many factors can be optimized across the mesh links with a multi-radio approach, including channel optimization, round-trip delay, signal strength and packet routing.

By dedicating radios to each mesh function, structured multi-radio mesh networks increase throughput and reduce latency, enabling the networks to accommodate voice applications and fast-roaming hand-off, as well as video and other real-time applications. Multi-radio mesh is designed around Layer 2 switching, further reducing latency and overhead while improving multi-hop performance.

A structured multi-radio wireless mesh network also allows for the use of multiple, separate sectorized antennas that send signals in different directions, each on different channels, and all at the same time. This cellular-like coverage enables simultaneous, collision-free transmission among clients associated with this type of architecture. As a result, more users can associate with the same node at longer ranges and attain a higher overall throughput, because there is less contention with other users.

Multi-radio Wi-Fi mesh networks solve the inherent Wi-Fi multi-hop throughput and latency dilemma caused by the half-duplex nature of 802.11. The performance gains achieved are ideal for supporting real-time voice, video and data over multiple hops.

Irani is vice president of marketing and strategy for Strix Systems. He can be reached at cyrus.irani@strixsystems.com.

Ask Dr. Internet

By Steve Blass

I was surprised to find that my BlackBerry does not provide any synchronization software for Macintosh systems. Are there any third-party products that can synchronize my BlackBerry device with my Mac?

BlackBerry manufacturer Research in Motion licenses the Intellisync desktop synchronization software from Puma Technologies, and says that Puma has no timeline set for the introduction of Mac versions of Intellisync or the BlackBerry Desktop software. There

are products available that provide BlackBerry synchronization capabilities for Mac systems.

SyncAgain (www.epicad.com) supports Mac synchronization for BlackBerry devices that use the BlackBerry Enterprise Server. SyncAgain synchronizes only with Address Book and iCal. The Web site says a stand-alone version is coming soon. PocketMac for BlackBerry (www.pocketmac.net) provides synchronization support for Macintosh Entourage, the Address Book and Entourage Calendar, as well as for iCal, Tasks and Stickies. In addition, the application fully integrates with

iSync, offers support for serial- and USB-based BlackBerry devices, and automatic sync-on-connection with the computer. SyncAgain and PocketMac for BlackBerry require Macintosh OS X 10.3 or higher. Neither provides an application loader. For now you might have to rely on a Windows PC to automatically load applications onto the BlackBerry.

Blass, a network architect at Change@Work in Houston, can be reached at dr.internet@changeatwork.com.



FrankenTiVo

GEARHEAD
INSIDE THE
NETWORK
MACHINE
Mark Gibbs

Arghhhhhh! Never in a million years would we have guessed that there would be a problem with getting our DirecTV TiVo to dial out for programming updates over our new Vonage VoIP connection.

According to Vonage: "Many Vonage customers have successfully set up DirecTV and TiVo series 2 connections through the Vonage Phone Adapter." Really? Ha!

We want to meet these Vonage customers because a Google search for "tivo vonage problem" returns 96,300 hits that reveal that many TiVo Version 1 owners had no problems with connecting over Vonage until a few months ago, while most Version 2 owners seem to have had no success at all.

The problem seems to be that the Vonage VoIP service won't handle data calls at high bit rates. There are a few online comments that point an accusatory finger at Vonage's network, claiming the problem lies there.

One person claims to have talked to the software engineering manager for the Cisco Analog Telephone Adapter (ATA), who said Vonage's gateways need to be configured for "modem pass-through" but for some reason aren't. It might be that Vonage can't do so. A common theory is that Vonage doesn't have full control of all the gateways it uses. Whatever the problem, it is a real pain.

How about using TiVo's built-in networking to get the

updates instead? No problem unless you have a DirecTV TiVo. Sigh. Guess what we have?

For reasons that aren't at all clear, DirecTV modified its version of the TiVo platform and removed features, making it less flexible than the original. Could there have been a concern with supportability or was it just DirecTV trying to differentiate its product? Whatever it is it is a completely loony decision. Just look on-line and see how many people are complaining.

DirecTV modified its version of the TiVo platform and made it less flexible than the original.

If you apply the Iceberg Theory that only 10% of any problem is visible above the surface, that means there are a lot of people out there thinking the DirecTV guys are not too tightly wrapped. If there are any DirecTV people listening, please get in touch, we'd like to find out why your version of TiVo is stunted.

Anyway, you can apparently make DirecTV TiVo regain its full power and majesty. All you need is some software, hardware and a burning desire to boldly go where few TiVo users other than the technically deranged have gone before.

Although we haven't tried it yet, the fix starts with downloading an ISO image of the PTVnet Software from PTVupgrade (www.networkworld.com/DocFinder/7957) for

\$20 and creating a CD. You then connect a second ATA drive to your PC, boot from the PTVnet CD, install the software for your brand of TiVo hardware, and take that drive and install it in your TiVo. Alternatively you can buy a pre-loaded drive from PTVupgrade.

Then you restart your TiVo, go through the standard set-up procedure, and you will have a DirecTV TiVo with increased hard-drive capacity (up to two 400G-byte drives — roughly 350 hours of video), the USB ports enabled, and a whole load of new features that can be networked (you'll need a DHCP server on your network and one of the supported USB Ethernet adapters).

You now can control your TiVo using the newly installed Web services (TiVoWebPlus, a general public license package, see <http://tivo.fp2000.org/twp>), which allow you to sort programs alphabetically, mark multiple shows for deletion, search and define programming choices, add season passes, modify show information and descriptions, and even see information the DirecTV TiVo doesn't make available, such as the original air date and program details.

Even better, when your TiVo is networked a phone connection is no longer needed, as all schedule updates are retrieved from the TiVo Web site. We will try this out in the near future.

What's hacked your TiVo? Tell gearhead@gibbs.com and see Gearblog (www.networkworld.com/weblogs/gearblog) for a list of the links in this story.

Cool Tools

Quick takes on high-tech toys. **Keith Shaw**

The scoop: Slingbox, from Sling Media, about \$250.

What it is: TiVo and other personal video recorders (PVR) introduced the concept of time shifting, in which TV content could be viewed by people whenever they wanted. Sling Media's Slingbox takes this concept a step further by letting people view their TV content wherever they are. Sling Media calls this concept "place shifting," which means people can take their video sources (TV, cable, satellite or even content from a PVR) and view that content on a PC in another room, city or even continent (works over a LAN or a WAN).

This is handled through the unassuming little Slingbox, a device about the size of a gold brick that connects the TV source (via coaxial cable, S-video or composite cabling) to an Ethernet router (wireless and power-line bridges also supported). PVRs and cable boxes can be controlled through an additional infrared cable that lets users switch channels on the box when they are remote.

A software client on a user's PC (only Windows XP is supported at the moment) connects to the Slingbox and provides the user interface for viewing the "TV" and changing channels.

Why it's cool: Too many times I've been in hotels where the only thing on TV is local news, weather and sports. Three time zones away, I often want to watch the Red Sox and cannot. With the Slingbox, now I can. Any saved content stored on a PVR also can be streamed across the Internet and viewed on my Windows XP notebook. The value of being able to watch my TV content, whenever and wherever I am, is well worth the \$250 price tag.

I was most surprised and pleased with the quality of the video stream. Sling Media uses optimization technology and buffering to create a very smooth video feed that

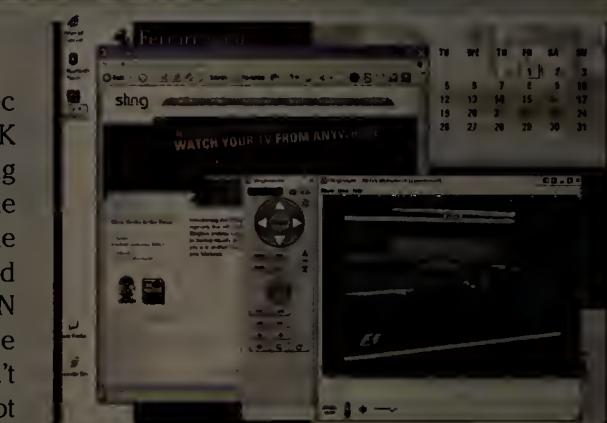
provided a 300K to 500K bit/sec stream on the LAN, and between 200K and 400K bit/sec stream while going across the Internet. I streamed the video wirelessly through my home LAN, at a public Wi-Fi hot spot, and then through the company's T-1 LAN (but accessing the TV feed across the Internet). The picture window won't fill up your entire screen, and it's not high-definition content, but it's still very watchable.

Testing notes: The simplicity of setting up the hardware depends on the type of TV source you want to connect and whether you can place the Slingbox near your home router. For example, if you want to connect a cable box or PVR to the system, you need to install the infrared cable. If your router is away from your TV source, you'll have to install a wireless Ethernet adapter or a power-line bridge to connect the Slingbox to the router.

The installation software also includes the ability to set itself up via Universal Plug and Play, which opens the proper port and assigns the Slingbox an IP address. Users who don't want to enable Universal Plug and Play can assign those manually.

Some caveats: Once during the test at the hot spot the TV feed stopped, and I couldn't reconnect immediately. When trying to connect via the company's LAN, I couldn't connect initially and had to reboot the system and try again (it worked the second time). At the moment, only Windows XP computers are supported, and viewing content on a Slingbox is on a one-to-one basis, which means multiple clients can't watch the same feed.

Grade: ★★★★ (out of five)



The Media Player lets you watch TV while multi-tasking.

Shaw can be reached at kshaw@nww.com.

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On Technology
John Dix

Spyware changing the way the 'Net ...

Viruses, spyware, phishing and other scams are conspiring to make the Internet a scary and unsavory place for Joe American, which is a threat to the continued growth of consumer-facing e-commerce efforts.

Gartner, for example, says security concerns could shave a full percentage point off its current forecasts for business-to-consumer e-commerce, which it expects to grow 18% in 2005, 15% in 2006 and 11% in 2007 (see www.networkworld.com, DocFinder: 7954).

Phishing is one of the biggest concerns, Gartner says, with about 1.2 million U.S. consumers suffering phishing-related losses totaling about \$929 million between May 2004 and May 2005. (See last week's column for a simple new tool that might help sites fight back, DocFinder: 7955.)

But spyware is also influencing how consumers use the Internet. According to research released last week by the Pew Internet & American Life Project, "nine out of ten Internet users say they have adjusted their online behavior out of fear of falling victim to software intrusions."

Of the changes the report identified: 48% of the 1,336 people surveyed have stopped visiting particular Web sites; 34% have stopped downloading software; 18% say they no longer open e-mail attachments; and 18% say they have changed browsers to try to avoid surreptitious software installation.

A whopping 43% of the respondents "have had spyware, adware, or both types of programs on their home computer," the report says, surmising the real figure is probably higher given some users don't know if they are infected. The report cites a 2004 study by AOL and the National Cyber Security Alliance, in which half of the respondents said they had spyware/adware on their computers when a subsequent scan of the machines showed 80% were hosting such code.

While the Pew report finds broad understanding of the spyware/adware threat — for example, 78% say they have a good idea what spyware is — it also revealed many users don't know what to do about it: 33% of the respondents say they are not confident in their ability to fight spyware/adware.

Therein lies the real threat to e-commerce: people who know about the threat but don't know how to cope will simply stop using the tool. Companies that are already realizing gains by serving consumers online still have significant work to do in terms of educating customers about how to safely use the Internet.

— John Dix
Editor in chief
jdix@nww.com

Opinions

Carr trouble

Your story about IT Doesn't Matter author Nicholas Carr (www.networkworld.com, DocFinder: 7922) states: "[Carr] studied neither business nor IT as a student, instead focusing on English literature...." That pretty much says it all.

I don't know why the tech industry keeps giving Carr any amount of coverage. His ideas, while different, aren't (from what I can tell) based in any reality. When he gets some understanding of how technology works then maybe he will be worth listening to.

I also have to laugh at Carr's statement that "Moore's Law has always been a fabrication — a popular (mis)conception of reality rather than a precise description of reality." Moore's Law is fine; it has worked and continues to work. The technology to actually produce the x10 effect every five years changes, but the basic premise is the same. What doesn't Carr understand? Maybe if he had some education in technology...

Ken Hollis
Tulsa, Okla.

Broadband secrets

Regarding Kevin Tolly's column, "Broadband service providers keeping secrets?" (DocFinder: 7923): An answer to Tolly's question — yes, they are. The secret is twofold. First, how many other customers are sharing the same segment that you are on? Second, how much bandwidth are they provisioning to you and the other customers? There are probably 250 customers for each 1.5M bit/sec of bandwidth and also the same 250 customers for the segment that you are on.

What broadband providers are really hiding is how much money they are making on the whole process. If you charge \$40 per month for service and on the back end are only paying \$200 per month for a T-1 circuit, you are raking in almost \$10,000 per month

for those 250 customers. This sounds like a real money-making business.

The broadband service providers are hiding all the money they are making and how they are over-provisioning the service. They have to make money and what you are paying for is service that is "on" 24/7.

Alexander Shaskevich
CEO
Metropolis Data Systems
Houston

Not too smart

Regarding Frank Dzubeck's column, "Net intelligence a balancing act" (DocFinder: 7924): Remember, it was the "stupid" IP network that got us this data revolution. And it was the "smart" circuit-switched telecom network that kept costs rising and limited services — even voice mail and caller ID — which, if you haven't noticed, come free with most cell phones. So this "smart network" idea can easily get out of hand.

Brandon Fouts
Seattle

Frank Dzubeck's column "Net intelligence a balancing act" presents some innovative insights. However, we have to push the envelope of network intelligence not just to the level of services and standards, but to solutions like application mirroring and business continuity based on network node virtualization.

Exploiting the latest developments in networking and virtualization, we can enhance the reliability of the existing IT applications without rewriting them and preserve the investments.

Shay Bendov
Tel Aviv, Israel

E-mail letters to jdix@nww.com or send them to John Dix, editor in chief, Network World, 118 Turnpike Road, Southborough, MA 01772. Please include phone number and address for verification.

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Readers respond

Find out what readers are saying about these and other topics. DocFinder: 1030



For service management, ITIL have to do

Growing up in a rural area meant that you often picked up local "idioms" as part of your language. Words such as ain't, if'n and y'all were part of my everyday speech. One of my local idioms was "it'll" — our local contraction of "it will." If'n there ain't any dinner and the only thing to eat is leftovers, then it'll have to do.

The IT world has its own "it'll," which for the time being will also have to do. The Information Technology Infrastructure Library (ITIL) is fast becoming the de facto framework for implementing effective IT service management.

Developed by the British government in the 1980s, ITIL provides a comprehensive series of best practices that can be implemented as common processes throughout IT. ITIL provides the framework for establishing functions such as relationship management, service desk, incident management, problem management and configuration management. ITIL is not a step-by-step methodology panacea for all IT issues; rather it is a complete — and complex — set of best practices that can be implemented in many ways, depending on the need and focus of the IT organization.

While ITIL is perhaps the most popular IT quality framework, it is not the only one.

Control Objectives for Information and related Technology(COBIT), developed by the Information Systems Audit and Control Association, provides guidelines on 34 processes that encompass the full IT life cycle, with a heavy emphasis on IT audit and security. The Capability Maturity Model (CMM) and Capability Maturity Model Integration (CMMI) frameworks from the Software Engineering

Many IT organizations are mixing and matching the relevant portions of these frameworks as needed.

Institute provide guidelines for developing standardized and repeatable application development and software engineering processes. The multi-industry Six Sigma framework provides both guidelines and tools for eliminating operational process defects, while its Design for Six Sigma sibling focuses on eliminating defects during the design and development processes before they become operational.

None of these frameworks are exclusive of the others and it is not necessary to implement

everything in any of these frameworks. Many IT organizations are mixing and matching the relevant portions of these frameworks as needed. In some companies ITIL is being used to implement a service-focused organization and Six Sigma is being implemented to monitor the quality of the operational processes. Other organizations are implementing COBIT to establish audit and security guidelines and CMM/CMMI to provide reliable application development. Others are using portions of these frameworks to create their own custom-quality process.

With the emerging emphasis on IT as a service provider and the need for all organizations to become compliant with the Sarbanes-Oxley Act and HIPAA, ITIL and all the other frameworks will become more prevalent as a way for IT organizations to organize in a way that will monitor and maintain their value.

Other frameworks may eventually replace these, but it will be a while. For now, ITIL and the other frameworks are the best available, and to paraphrase my country kin, "it'll have to do."

Yoke is director of business solutions engineering for a corporate network in Denver. He can be reached at ckyoke@yahoo.com.

When mgmt. sets the wrong security culture

Fourteen years ago I warned MyBank (which is not one of my clients; I am one of its) about using Social Security numbers as solid identification. The bank's head of security said he would look into it. Since then, the security at MyBank has gone from bad to worse. It's still a recipe for ID theft.

During a recent tele-banking transaction, I was instructed to enter my bank account and Social Security numbers. MyBank's "new and improved" system was using two pieces of publicly available information as proof-positive remote identification. When I confronted MyBank about this, it took 30 days to fix this gaping security hole.

Last month, MyBank assured me its online banking system was fixed. Logon security was decent: a long, secret account number generated by the bank, my federal EIN, a four-digit PIN and no cookies. As a test, I moved money to American Express and paid Al, a member of my staff.

Several days later, Al screams, "Where's my paycheck?" I had proof I sent it. Amex also said it had not been paid. I had proof I paid it. I called MyBank and asked for proof of receipt of funds by Amex and Al's bank, but was told the bank does not use acknowledgements from online transfers. The most disturbing security aspect is that no one at MyBank could tell me where my money was when it was not in my account and not in Amex's or Al's.

Then security at MyBank plummeted to a new low. The reasonable logon security had been shattered, as the long private code was no

longer required. Now my publicly available account number and a mere four-digit PIN was the sole defense of any account that sits on the Internet. The obvious attempt to simplify the user experience is a devastating blow to security. An ATM card only requires a four-digit PIN, but it employs the "something you own, something you know" identification mantra. Silly me for expecting better banking security on the Internet.

When I once more attempted to pay my staff, Al was again the victim. His money was snafued in

The obvious attempt to simplify the user experience is a devastating blow to security.

the labyrinth of MyBank's infrastructure. Without my knowledge or approval, a banking employee: (1) cancelled my payment to Al, (2) issued a payment from my account with something called a "forced check" to Al, (3) withdrew a duplicate payment from my account without my authorization and deposited it in Al's account, and (4) cancelled another payment to Al. The net effect of this security transgression was a cascade of bad checks, overdrafts and the freezing of Al's other accounts.

Then it got worse. Al says MyBank told him that the money was removed from his account (without authorization or notice) because my corpo-

rate account had insufficient funds to cover his paycheck. This security breach was in clear violation of any number of privacy and banking laws or compliant governance besides being an absolute untruth.

If any one of these had been an isolated incident, so be it, but I was sucked into the pandemic maelstrom of a stream of significant security lapses. MyBank chose to use the easiest and weakest identification possible. All three basic security principles — confidentiality, integrity and availability — were violated through poor application design, inexplicable movement of money, social engineering and denial of funds. To see two major remote banking systems designed with such holes suggests that the application development folks are using weak security as a trade-off for a simpler customer experience.

Security and user experience (functionality) are inversely proportional, but it appears MyBank has taken the easy way out: Listen to customers who complain about security barriers, remove or reduce their efficacy and see what happens. I had hoped by now that most major financial institutions had crossed the security awareness boundary from clueless to clued-in. Hopefully my experience can serve as a model on what not to do.

Schwartzau is a security writer, lecturer and president of Interpact, a security awareness consulting firm. He can be reached at winn@thesecurityawarenesscompany.com.



USER VIEW

Chuck Yoke



ON SECURITY

Winn Schwartau

The ROI of VoIP

A step-by-step guide to determining the true cost and benefits of VoIP.

BY ROBIN GAREISS

When it comes to VoIP, most network managers are satisfied that the technology works. The challenge is developing cost analyses: What will the new technology cost to roll out and support, and what benefits can companies expect to reap?

There's no single shrink-wrapped answer. But Nemertes Research interviewed 65 IT executives at leading-edge companies across a range of industries and developed real-world guidelines for analyzing the costs and savings that can result from VoIP projects.

Step 1. Preplanning is key

In most projects, the first stage is preplanning in which companies assess the network, including present and future applications requirements and future business plans, such as new moves, company growth, and merger and acquisition possibilities.

It's at this stage that companies answer the fundamental question: Is it worth moving to a converged infrastructure, and if so, at what pace?

Once companies decide the technology is worth further exploration, they enter the official “planning” stage, during which they should perform several tasks, including assigning a project leader, evaluating management and security options, and working to raise end-user excitement in the project.

Most importantly, they're developing a detailed ROI to validate the project financially.

Step 2. Determine start-up costs

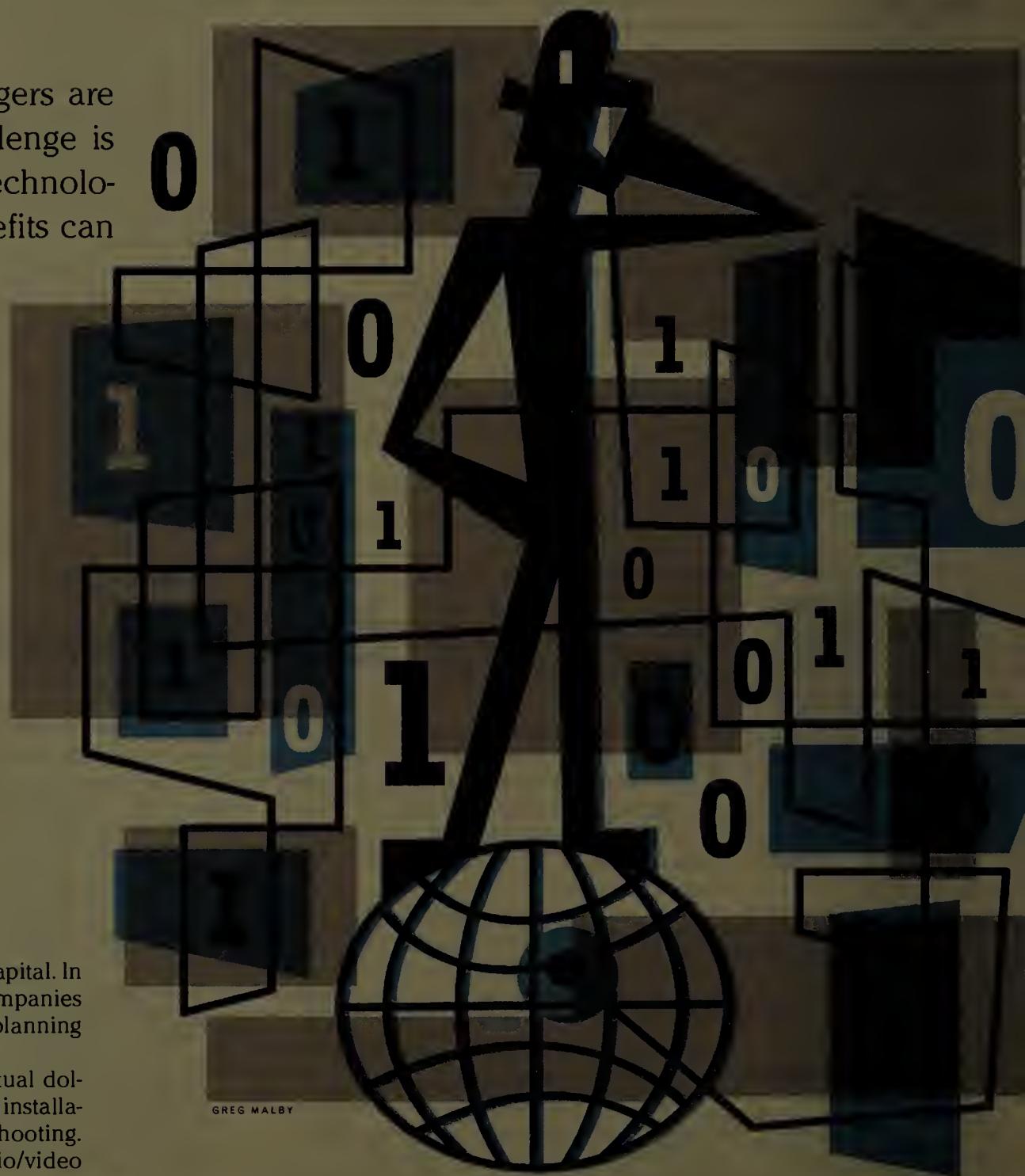
Start-up costs fall into two general categories: operational and capital. In both cases, the figures in this report represent actual costs that companies participating in the research study incurred, starting with the planning stages and ending once the initial troubleshooting was finished.

For operational costs, companies provided the staff hours or actual dollars devoted to the baseline network assessment, project planning, installation of the IP PBX(s) and accompanying handsets, and troubleshooting. Companies that installed a unified messaging system or audio/video

Overall average installation costs

Expect to spend nearly \$100,000 on installation of your VoIP network.

	People hours	Average cost
Baseline network assessment (internal or external)		\$17,220
Planning	447	\$23,563
Installation	631	\$37,676
Troubleshooting	263	\$13,396
Total	1,340	\$91,845



bridge with their initial implementation also included the time it took to handle those tasks.

Capital costs are defined as the IP PBX, phones and network equipment explicitly installed for the initial VoIP rollout.

Part of the planning phase includes a baseline-network assessment, or a network readiness study. Companies typically budget about \$20,000 for the assessment, though larger companies spend \$50,000 or more. Typically, a vendor, systems integrator, value-added reseller, carrier or internal IT staff evaluates the organization's network, running simulated voice traffic over it to determine what upgrades are necessary.

The baseline network assessment has become a crucial part of any VoIP implementation. Although some companies abide by the finger-to-the-wind test, a growing number of IT executives strongly suggest conducting such an assessment despite the cost. "VoIP is so new to us. We'd be concerned with what it does."

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VoIP cost per unit

Companies with 1,000 or more users are able to show the lowest cost per unit.

Number of users	Operational cost per user	Hardware cost per unit (including PBX)	Total cost per unit
Fewer than 100	\$122	\$641	\$763
100-499	\$136	\$771	\$907
500-999	\$117	\$548	\$665
1,000 or more	\$37	\$488	\$525

to our data traffic. We can't take it casually," says Irving Tyler, CIO of Quaker Chemical Company in Conshohocken, Pa.

Operational start-up costs vary considerably based on the company size and state of deployment. For example, companies with 100 to 499 users spend the most per user, and costs drop as the number of users on the VoIP system increases. This is primarily because companies are able to leverage the costs involved with planning, installation and troubleshooting among a greater number of end users.

Organizations with fewer than 100 users spend less than those with 100 to 499 users. Often, companies with fewer than 100 users are running small trials and haven't invested in a baseline network assessment yet, so their cost per user appears lower.

Also, organizations with small rollouts usually keep their implementations straightforward, eliminating some of the time-consuming complexities of larger rollouts, such as integrating the gear into current TDM PBXs or voice mail systems. This keeps the fewer-than-100-user rollouts lower than the next level up.

The trends were similar with capital costs. The highest cost per unit is among companies with 100 to 499 users, at \$771. The lowest cost per unit is among companies with more than 1,000 units, at \$448.

In cases where the average phone cost is high, it's usually organizations that have added audio or video equipment to their hardware costs, or those that have invested heavily in equipment and still are running trials so they don't have as many phones in use as the equipment supports.

For example, one large global manufacturer has spent \$2 million on equipment, housed in five U.S. and two European locations. But it only has 350 users on the system now, as it runs trials and starts a slow rollout. Once fully deployed, the switches will support thousands of users, lowering the cost per unit, even though the company will buy more handsets.

Step 3. Don't forget the cost of management tools and training

Aside from the initial capital equipment and operational costs, many companies overlook a few other key cost considerations: management tools and training.

Only about 25% of companies budget upfront for specialized management and security tools. Many network managers say current management tools will do the trick, and (if they acknowledge that voice traffic must be secured) stan-

dard security practices already in place will take care of the security issues.

But this isn't the end of the story. Most companies that didn't budget for management and security end up wishing they had. Sometime within 12 months after installation, companies recognize they need VoIP-specific management tools, and they start shopping. The budget for management tools should be set at about \$50,000, and companies should budget a minimum of \$100,000 (this could go significantly higher, depending on the size of the company and the extent of the rollout).

Training is another area that companies often fail to budget for, or underestimate. The average amount survey participants spent on training was \$16,438. Vendors and training organizations typically charge between \$1,700 and \$2,500 per IT staff member, though some IT executives say they have been able to negotiate two-for-one training deals.

Step 4. Calculate savings from long-distance and local loop

When VoIP first came onto the scene, networking staffs eyed per-minute, long-distance rates as the big benefactor of the technology. That's not the case anymore. On average, companies are spending between 2 cents and 4 cents per minute on their long-distance calls. VoIP isn't going to reduce those rates much further. Internationally, though, companies are saving between 20% and 40% on their per-minute rates, depending on the country.

According to the study, companies decreased their telecom costs by 25% to 60% when they converged their networks. This takes into account per-minute long-distance, local loops, plain old telephone service (POTS) lines and audio/video services.

Circuit savings for converged networks

Companies can save money on international calls, access lines and POTS charges.

	Small	Midsize	Large
Per-minute long distance — international	40%	20%	20% - 30%
Local loops (per site)	0	1 to 2	2 to 6
Average monthly cost (x \$400 each)	0	\$400 to \$800	\$800 to \$2,400
Annual savings		\$4,800 to \$9,600	\$9,600 to \$28,800
POTS lines (site 100% IP)	95%	75%	70%
Average cost (\$45/line)		Varies depending on total lines.	

Local loops represent one area in which companies save money. This primarily applies to large businesses that have more than two access lines into a given location. IT executives say they limit their access lines in remote locations to two to four (for redundancy sake), and they reassess how much access bandwidth they need. In doing so, they might increase a 6M bit/sec line to a full T-3 and keep two back-up T-1s, but in the process get rid of 15 T-1 lines for voice traffic and one 6M bit/sec line for data. Another area of savings is POTS or trunk lines. Companies can eliminate 70% to 95% of their POTS lines, at an average cost of about \$45 each.

It's important to keep in mind the WAN itself likely will need about 30% more availability to handle the voice traffic. Because most companies keep their average utilization at less than 50%, they usually have enough spare capacity — with the right management tools in place — to add bandwidth only in key locations. The value of convergence is reducing the excess capacity that exists in both the voice and data networks.

Step 5. Don't forget potential audio and videoconferencing savings

Some companies have realized that substantial cost savings exist by shifting audioconferencing and videoconferencing traffic to the IP network. IT staffs often overlook both areas when doing their initial ROI, or consciously place them in the second phase of the rollout.

VoIP training budget

Many companies forget to factor training into their VoIP calculations.

	Small	Midsize	Large
Number of IT staff sent to training	1 - 2	2 - 5	10 - 30
Cost per person	\$2,500	\$2,000	\$1,700
Total budget	\$2,500 - \$5,000	\$4,000 - \$10,000	\$17,000 - \$51,000

How the vendors stack up

Nemertes assessed costs by vendor. It's important to note that these costs reflect the average of actual dollars spent by the 65 companies surveyed, divided by the number of end users on the VoIP system at the time of the study. Nemertes anticipates some changes to these numbers as companies add more users to current systems.

Operational costs:

- Companies with fewer than 1,000 end users:** Avaya is highest, followed by Nortel and Cisco. ShoreTel, designed primarily for small and mid-size businesses, is significantly less expensive, validating customer feedback that its system is easy to use and install.
- Companies with more than 1,000 end users:** Cisco is highest, followed by Nortel, Avaya and ShoreTel.

Capital costs:

Avaya was the highest in both size categories, while Nortel had the lowest costs for fewer than 1,000 end users, and ShoreTel had the lowest costs per unit for more than 1,000 units.

According to the research, companies that install Cisco to a large number of locations, and hence, a large number of users, tend to install a Call Manager in multiple locations, raising the cost per unit. Additionally, they often find their routers at remote locations are incompatible with the VoIP system, and they must upgrade mid-project — again adding time and costs to the rollout.

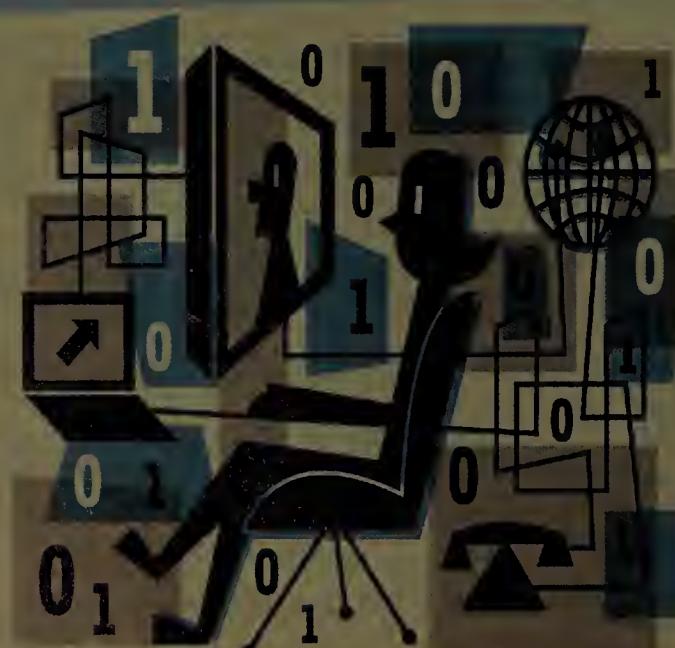
Avaya's cost per unit drops for installations of more than 1,000 units, illustrating that the bulk of its operational costs are in the installation and troubleshooting of the switch itself. Once that's up and running, expanding the system out to thousands of users drastically lowers the cost per unit. Also, many of the companies that are using Avaya's equipment are extremely concerned about redundancy, so they have purchased more than one IP PBX, which raises the cost — particularly when assessing it per user for smaller installations.

Nortel, on the other hand, has a fairly good handle on pricing — it's not too high in any category and typically represents an "average" or "fair" cost when measured by unit.

ShoreTel's cost per unit is lowest in every category except capital costs and total costs for small rollouts.

New construction savings

For new buildings, cabling costs can be a huge number in the "savings" column. Companies report saving 20% to 40% by running wiring for one network instead of two. Advertising and communications firm inChord Communications, for example, slashed 40% on cabling cost in its new building, from \$252,000 to \$180,000.



GREG MALBY

Typically, a company realizes a four- to 12-month payback when it buys an IP-based video or audio server and run the traffic over its IP network rather than via a circuit-switched service.

In terms of videoconferencing, companies are spending from 25 cents to \$1.25 per minute, per participant. It's easy to see how the savings could quickly add up. For example, a manufacturer had been paying Sprint \$317,000 per year for service. It then spent about \$170,000 on video equipment and ran the traffic over the data network, realizing a five-month payback.

Cost details for audioconferencing savings

VoIP can bring significant cost savings on audio and videoconferencing.

	800-person professional services firm	1,000 person engineering firm
Per-minute price prior to VoIP	15 cents	19 cents
Per-minute price after VoIP	2 cents	1 cent
Minutes per month	180,000	27,000
Cost prior to VoIP	\$27,000	\$5,000
Cost after VoIP	\$3,600	\$250
Monthly savings	\$23,400	\$4,750
Annual savings	\$280,800	\$57,000
Equipment cost	\$132,000	\$21,000
Payback in months	Six months	Four months

Step 6. Factor in moves, adds and changes

One of the best-known benefits of VoIP is the savings that result from moves, adds and changes. On average, companies spend \$105 on moves, adds and changes, but the range is from \$60 to \$250. Companies save anywhere from 89% to 98% on moves, adds and changes, depending on the company size and number of moves, adds and changes per year.

The savings aren't as great when companies already perform their own moves, adds and changes for TDM PBXs. They're still dropping their overall costs, but the dollar amounts are not as great. Internal moves, adds and changes for TDM PBXs typically take about 45 minutes, while moves, adds and changes for IP PBXs take up to 10 minutes. The average cost for an internal TDM move, add and change is \$32.52, and \$5 for an IP PBX — for about an 85% cost savings.

Step 7. Personnel savings

Personnel savings are no longer the big draw they were during the boom years. Most organizations have fairly lean IT and network staff to begin with. Where we see most of the value here is in cost avoidance. IT executives say they had planned to hire one or two more people and then did not have to because they were able to cross-train current staff, reduce workload and make do with the status quo.

On average, companies were able to cut \$76,839, or an average of 0.74 positions, from the IT budget because of convergence projects. It's not a make-or-break number for a given project, but it certainly adds further justification to the ROI.

In addition to the IT staff, some companies have been able to reduce their receptionist staffs by using the automated attendant features of some of the IP phone systems from companies such as Cisco and ShoreTel. Rather than having 10 receptionists answering phones at 10 locations, companies have reduced the number to five receptionists, each handling two locations (or in some cases, even greater ratios). They can transfer the calls over the IP network so they're not incurring long-distance charges.

The bottom line is costs and savings are multifaceted, and it's imperative for companies to do a detailed assessment that includes all of these components.

Gareiss is executive vice president at Nemertes Research, which specializes in quantifying the business impact of emerging technologies. She can be reached at robin@nemertes.com.

CLEAR CHOICE TEST

EmergeCore combines file sharing, Web server, e-mail

BY PAUL FERRILL

Small and midsize businesses looking to set up shop with e-mail, file and printer sharing, and a Web presence have options such as Microsoft's Small Business Server, or Linux distributions that come with all the software they need (although setup and configuration aren't for the faint of heart).

For a Linux option that is simple to set up and configure, consider the EmergeCore IT-100 IT in a Box. The IT-100 is a handy single-point appliance for file sharing, Web and FTP serving, and e-mail. For most end users the cost will be part of a long-term service agreement with an ISP and shouldn't be a factor in deciding to go with the product.

Features and apps

EmergeCore's business proposition is aimed squarely at ISPs. With prices for high-speed DSL or cable continuing to drop, it's imperative for ISPs to offer additional value to its business customers. The IT-100 has several features that you'd expect to get with a higher-end server, but in a package not much larger than a small router.

The hardware portion of the IT-100 we tested is a standard set of components — including four 10/100 Ethernet ports, an 802.11b wireless access point, two USB 2.0 ports for attaching an external hard drive or printer, and a 20G-byte hard drive. The box itself is not much bigger than a DSL modem/router combination box.

The IT-100 has the basics covered with e-mail, FTP and Web servers ready to go out-of-the-box. Each component must be individually configured for use through a simple Web-based configuration screen. The system includes an easy-to-use Web site creation tool called Web Builder. It's comparable to offerings from ISP vendors such as Verizon for creating a basic home page. Web Builder offers several screens where you choose from a list of site categories or themes, add contact information and choose what type of site navigation will be displayed. The process is straightforward and would work for creating a simple Web site.

Configuring client e-mail programs to use the IT-100 took only a few steps. The EmergeCore Web site offers several how-to options, including how to configure Outlook to talk to an IT-100 mail server. It doesn't offer information for other e-mail clients, although the infor-

mation provided in the Outlook How-To was generic enough that we could configure Mozilla Thunderbird to work with it.

Sharing files on a Windows network worked well. To get up and running, we just needed to enter a workgroup name and NetBIOS host name (see How we did it at www.networkworld.com, DocFinder: 7925). A drawback is the lack of support for anything other than Windows NT domains, which means we couldn't authenticate to Active Directory or join an Active Directory domain. This will only be a problem if you have a Windows 2003 server on your network acting as a domain controller.

The system's Traveler application helps SMBs manage trips. It offers a place to enter an itinerary, airline, hotel and rental car information for later access. While the application is straightforward and might be useful for sharing your itinerary information with others, it wouldn't be practical unless you had constant access to the Internet.

A customer relationship management (CRM) application is also included to let SMB owners manage customer data. It's not on par, for example, with a Siebel product, but it does the basics of tracking names and contact information.

Security

To protect a company's network from outside attack, the IT-100 includes a Linux-based firewall with multiple levels of protection, intrusion detection that reports on the integrity of program files, and configurable alarms. The security features are solid, based on time-tested Linux applications.

Wireless security support includes media access control address filtering (we liked how it was turned on by default), as well as username/password authentication and up to 128-bit Wired Equivalent Privacy encryption. On the downside you won't find any support for Wi-Fi Protected Access. While the box we tested did not support 802.11g, it is available as an option.



EmergeCore's IT-100 IT in a Box
comes equipped with e-mail, FTP
and Web servers.

INTERNET APPLIANCE

IT-100 IT in a Box

EmergeCore

NetResults 3.3

\$1,395 for basic system w/ 20G-byte hard drive and 802.11b.

Pros: All-purpose box for basic small and midsize business needs; including e-mail, Web server and file sharing.

Cons: No Wi-Fi Protected Access support for wireless, no support for external USB devices except backup.

The Breakdown

Scoring Key: 5: Exceptional;
4: Very good; 3: Average;
2: Below average; 1:
Consistently subpar

Features	40%	4
Management	40%	3
Setup/Installation	10%	3
Documentation	10%	2
Total score		3.3

Administration

Managing the IT-100 can be done through a Web browser wherever there's Internet access. The management console provides all the necessary information in a very readable format with a tree-view of configuration items on the left side of the page and detailed information on the right, similar to a Windows Explorer display. From the top level you see graphical and tabbed views depicting the system's status. Another nice touch is the listing of technical support phone numbers and the system's serial number on the system summary page.

A back-up and restore feature lets you back up the IT-100's data locally, to an external USB storage device or over the network to a Windows file share. The automatic scheduled backup comes disabled by default, but can be easily enabled. The 20G-byte hard drive in the unit we tested was too small for more than simple e-mail storage, although you can get a 60G- or 100G-byte version.

Setup

Getting the IT-100 up and running took less than 10 minutes. An Express Setup Guide led us through the necessary steps of connecting the box to the Internet and at least one workstation. A single RJ-45 jack on the back of the IT-100 connects to a DSL or cable modem for access to the Internet.

We disliked having to set the IP address of our workstation to 10.9.8.10 to talk to the IT-100. It would seem more intuitive to have DHCP enabled to make the setup process simpler. Fortunately, the configuration process prompts you for a new address if you need to change it. We liked the ability to go back and change our configuration settings at a later date. The guide says this the first time you get to an optional component such as CRM or Traveler. All the installation dialogs are clear and easy to understand.

While the IT-100 includes a serial and parallel port, neither one worked in our test. The EmergeCore Web site recommended using IP printing on the local network as a solution for shared printing.

Ferrill is a freelance reviewer and writer in Lancaster, Calif. He can be reached at paul.ferrill@verizon.net.

CLEAR CHOICE TEST

Another challenge to the IP address management throne

BY BARRY NANCE, NETWORK WORLD LAB ALLIANCE

In our quest to find the best IP address management tool (www.networkworld.com, DocFinder: 7921), IPControl 2.0 from International Network Services slipped under our radar. So we recently subjected IPControl to the same tests and criteria we used in our May 9 story.

The perfect IP address management tool should flexibly and efficiently assign IP addresses to all IP devices, centrally manage the address and URL information across a company, quickly and effortlessly equate host names with IP addresses, scale well, be intuitive to use and be pervasively platform-neutral. The tool also must have useful reports, integrate with custom-written applications, cooperate with Active Directory, be Lightweight Directory Access Protocol (LDAP)-aware and deal robustly with badly formed or non-compliant DHCP requests. The best tool also is highly fault-tolerant and enforces security to help keep hackers at bay.

We found IPControl to be less expensive than Lucent Technologies' VitalQIP and MetaInfo's Meta IP, yet just as easy to use. However, VitalQIP (the May 9 Clear Choice Award winner) is faster, offers more features and is more scalable.

Organizing your addresses

IPControl did a good job of discovering and cataloging our network's devices via its queries of router subnets, DHCP address pools and individual IP addresses. After initially discovering our IP-based network nodes, IPControl separately managed actual vs. planned addressing schemes to provide us with a forward-looking view of our future network as it expanded. We also liked IPControl's BIND versions 8 and 9 compliance, as well as integration with Active Directory. IPControl can direct the operations of Windows Server's DHCP services just as well as it can its own DHCP server software.

The IPControl platform includes a central InControl

Executive, at least one but possibly several InControl Agents, a central database and an Administrative Interface. The Executive application directs the activities of the agents, stores IP addressing information in the database and accepts interactive configuration data from the Administrative Interface. The default database is MySQL (included), but on Solaris you can substitute your own copy of Oracle's relational database. INS supplies DHCP software that runs on Red Hat Linux and Solaris, and BIND software that runs on Windows, Red Hat Linux and Solaris. IPControl runs on Solaris, Windows (2000, 2003 and XP) and Red Hat Linux. If you prefer a network appliance, INS sells IPControl pre-loaded in a rack-mountable device.

As in our earlier test, we measured performance by running custom client software that rapidly requests 50,000 dynamic IP addresses and noting the elapsed time that each tool took to respond (see How we did it at www.networkworld.com, DocFinder: 7926). We ran the program six times, one test on each network segment in our lab. We also benchmarked DNS activity. Our test software issued a flood of 50,000 name-to-IP address resolution requests, and obtained responses from a DNS server (see graphic below).

For reliability and robust address management, the DHCP server within the IPControl architecture handles failover according to the IETF's DHCP Failover Protocol Internet Draft for primary/secondary servers. VitalQIP and Meta IP go a step further by supporting multiple running DHCP servers, as well as primary/secondary DHCP servers. Both IPControl and VitalQIP can optionally ping a DHCP address-requesting client at lease time to make sure a DHCP request isn't spurious.

IPControl, VitalQIP and Meta IP offer logon authentication via callout script or a program that you write. However, VitalQIP and Meta IP have explicit support for such operations as relating an IP address to a media access control (MAC) address (user-to-address mapping), which in IPControl requires that an administrator write a callout program. VitalQIP and Meta IP have explicit support for LDAP. With IPControl, you must use the callout-service feature to integrate it with an LDAP repository. VitalQIP also explicitly supports Dynamic DNS multi-master updates, while IPControl has a listener service that can perform incremental updates, as well as updates of multiple masters.

IP address requests

Product	Elapsed seconds	Leases/second*
VitalQIP	44	1,136
Meta IP	58	862
IPControl	58	862
DNSBoxes	65	769

DNS resolution performance

Product	Elapsed seconds	Leases/second*
VitalQIP	28	1,786
Meta IP	35	1,428
IPControl	36	1,389
DNSBoxes	42	1,190

* 50,000 requests divided by elapsed seconds value

* 50,000 name requests divided by elapsed seconds value

IP ADDRESS MANAGEMENT

IPControl 2.0

International Network Services

NetResults 3.8

From 10 cents to \$2.50 per node

Pros: Intuitive, easy-to-navigate user interface; low cost

Cons: Not as feature-rich or as fast as VitalQIP.

The Breakdown

Scoring Key: 5: Exceptional;

4: Very good; 3: Average;

2: Below average; 1:

Consistently subpar

Performance	20%	4
IP address management	20%	4
Ease of use	20%	4
Scalability	10%	3
Security	10%	4
Installation	10%	3
Documentation	10%	4
Total score		3.8

IPControl cannot send SNMP alerts to a network management system when it detects an address from a particular MAC address or user logon, but VitalQIP can.

Like IPControl, VitalQIP is available on a network appliance and runs on Solaris, Windows (2000, 2003 and XP) and Red Hat Linux. VitalQIP additionally runs on AIX and HP-UX. Meta IP runs on Solaris, Red Hat Linux, Debian, SuSE and Windows (2000, 2003 and XP). In contrast to IPControl, VitalQIP's database options include both the Oracle and Sybase Adaptive Server, relational DBMSs and Lucent bundles Sybase Adaptive Server with VitalQIP. Because VitalQIP is faster and runs on more platforms, it is more scalable than IPControl.

IPControl's support for IPv6 is a big plus, while VitalQIP won't work with IPv6 addresses until year-end. On the other hand, VitalQIP has ENUM support for relating phone numbers to URLs or IP addresses (RFC 2916), whereas IPControl does not.

Ease of use

IPControl uses a container metaphor to help an administrator organize IP addresses into groups. These containers can represent geographical locations or other organizational elements significant to a customer. A collapsible tree makes quick work of navigating IP address blocks if you have complex sets of containers.

We liked that IPControl let us effectively delegate administrative tasks by subnet. It supports multiple concurrent administrators, just as VitalQIP does.

IPControl has a Web browser-based interface and command-line interface, while VitalQIP offers an easy-to-navigate native GUI client for Windows and Unix in addition to its browser-based and command-line interfaces. However, IPControl graphically displays network topology, a feature that VitalQIP lacks. For data import and export options, IPControl had fewer options and less extensive templates than VitalQIP.

IPControl offers extensive, easy-to-use APIs if you want to write your own programs. The software was easy to install and came with clear, comprehensive documentation.

IPControl didn't dethrone VitalQIP in our tests, but it certainly proved a worthy challenger.

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Should you check outgoing e-mail?

BY MICHAEL OSTERMAN

Inbound message content scanning to eliminate spam and malware is virtually universal. However, outbound content scanning is becoming a hot issue for organizations.

While the Securities and Exchange Commission has required investment houses to sample e-mail and instant messages sent by their broker-dealers after the fact to make sure that these communications don't contain false claims or misleading statements, there is a growing move for all types of organizations to monitor e-mail messages and instant messages before they are sent.

The motivation is simply to prevent unacceptable communications — such as profanity, credit card numbers, sensitive information and the like — from leaving an organization and thereby creating liabilities. A failure to monitor communications can have some serious consequences:

- Recently, a New York state assemblyman sent e-mail to about 300 people in which he referred to some of his constituents as idiots.

- In June, a secretary spilled ketchup onto the pants of a lawyer at a large law firm in London. He asked her, via e-mail, to compensate him for the approximately \$7 dry cleaning bill and followed this up with a note on her desk when she did not reply quickly enough. She replied to the lawyer — and 250 other people — that her mother's sudden illness and death had slowed her response to his demand. The lawyer has resigned from the firm.

- A woman intended to send an e-mail to her sister commenting that her participation in a weight loss program had made her "fat butt" smaller. However, she mistakenly sent the e-mail to a distribution list for her homeowners association, not her sister.

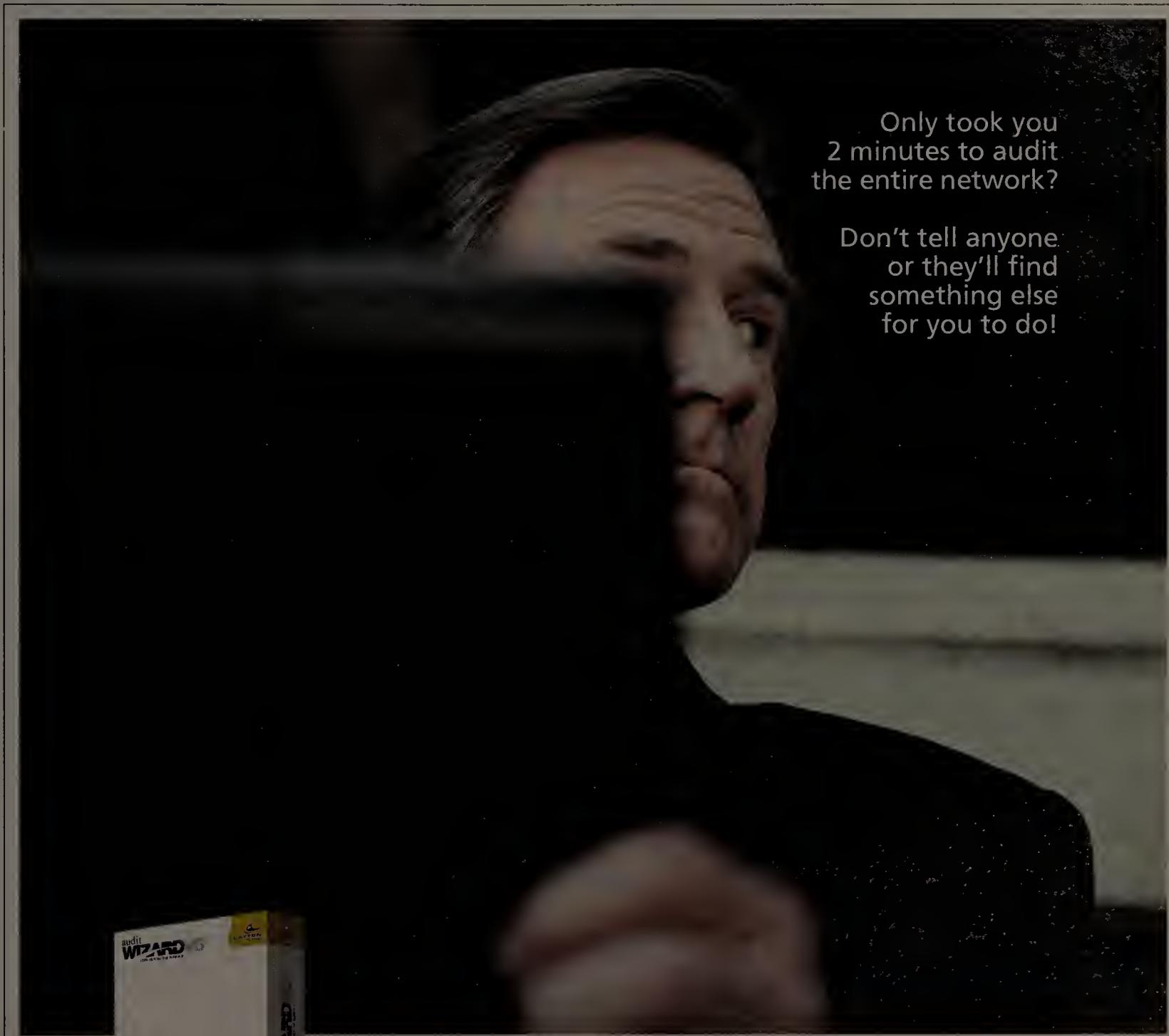
It's important for users to be educated on corporate policies about

appropriate use of e-mail and for these users to police themselves and try not to send out embarrassing or sensitive information. A failure to be careful can lead to a loss of reputation or a job, or it can

lead to heavy fines. However, users sometimes make mistakes and send out information they shouldn't — or they hold to the mistaken notion that if they delete an e-mail message, it's gone. Any

organization concerned about its credibility, reputation and future should make sure that its outgoing e-mail is as clean as the e-mail stream that reaches its users.

Osterman is the principal of Osterman Research, a market research firm overseeing messaging, directory and related products and services. He can be reached at michael@ostermanresearch.com.



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E-MAIL NEWSLETTER SHOWCASE: ISP NEWS REPORT

Equant aims to improve performance of IP apps

BY CAROLYN DUFFY MARSAN

Equant is expanding its suite of consulting services that help companies improve the performance of key applications running over IP networks. The ISP backs up these services with its first Application Service-Level Agreements.

The SLAs and services, which Equant announced in late June, are available in the nearly 200 countries. Customers of the consulting services and SLAs can choose either Equant's private MPLS network or its public Internet service.

Equant used to offer traditional SLAs based on IP network metrics. Now Equant is adding end-to-end guarantees for how well applications run over an IP connection.

"I'm not aware of anybody else having an Application SLA," says Dan daCosta, solutions marketing

manager for Equant.

To take advantage of the Application SLAs, customers must purchase Equant's consulting services. These services are known as Strategic Network and Application Predictor (SNAP).

SNAP services include the Application Performance Analysis, which involves Equant installing Packeteer devices on either end of the network to measure the response times of applications. Equant consultants and corporate network managers use data from the Packeteer devices to tweak applications or networks to optimize performance.

Customers can leave the Packeteer devices in their networks for ongoing application performance analysis. The devices can take certain actions if application performance falls below

certain thresholds.

Equant also offers Application Pre-Deployment Analysis. This service lets corporate network managers figure out how a new application will affect network performance.

The two new SNAP services are: Network Performance Optimization and Predictive Network Modeling. Under the first service, Equant consultants help customers with network forecasting and budgeting to handle such

issues as traffic growth and seasonal peaks. The second service lets customers ask what-if questions about their IP networks to determine what might happen if a new application is added or if the network is migrated to a different technology.

Equant has been offering all four SNAP services to a handful of beta customers for the past nine months. One European financial services firm used the SNAP services to test how the company's network would respond to an increase in Web traffic prompted by a new advertising campaign. A consumer products company used the SNAP services to determine why its SAP applications were not performing up to par.

"We got the software developers involved and optimized the design of the SAP application

and matched it up with the network," daCosta says.

"We went from almost losing this customer because they thought our network wasn't responding to the point where they contact us before making changes to applications," he adds.

Once the SNAP services are engaged, Equant will offer customers an application SLA. Equant says interest in its SNAP services and Application SLAs are coming from companies with mission-critical applications such as SAP and Oracle.

Equant says the SNAP services cost anywhere from tens to hundreds of thousands of dollars. The ongoing Application Performance Analysis service, with the Packeteer devices, costs between \$200 and \$500 per month, per site. ■

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Grant Thornton standardizes IP PBXs

Firm's telecom manager recounts the savings and productivity gains.

BY KEVIN LOPEZ

Thank goodness we followed a telecom system standardization process. That's what I think looking back at where Grant Thornton was compared with where we are now. Grant Thornton, LLP is the U.S. member firm of Grant Thornton International, a global accounting, tax and business advisory organization. The organization has member firms in 110 countries, including 49 offices in the U.S.

When I accepted the position of national manager of telecommunications in November 1998, the firm didn't have a telecom department. Each office did its own thing when it came to telecom, with managers, partners, or in some cases, IT folks making decisions. Soon after taking the job, I realized it would be a bigger task than I anticipated. Today, my six-person telecom department supports 4,400 employees.

In 1998 we had 44 offices, with a mixed bag of PBXs, key systems and Centrex lines. We needed to address potential Y2K issues such as system software not being able to roll to 2000. In doing so, we knew changes would be made to our environment to allow for growth, align our business strategy and enable all offices to work as one firm.

We agreed to replace any telecom system that required more than \$5,000 in upgrades. Our goals were to be certain we wouldn't be hit with any Y2K issues and begin our telecom standardization process. Lucent Technologies (now Avaya) won our business because of its good technical foresight.

To make this phase of the project and our overall plan a success, the support of senior leadership was critical. We put benefits into terms managers could relate to: Standardization gives you the ability to change directions quicker and support the environment with greater efficiency, because the processes were built to align with our overall strategy. Sharing our intentions fostered trust and opened lines of communication.

In the first year, we replaced 25 systems. As with most in the industry, Y2K came and went without any problems, and we continued replacing systems. Establishing a process for upgrades and system enhancements contributed to the evolution of our organization.



“Our vision is to ride the VoIP wave, choosing products that will provide cost savings or business alignment and passing on those that do not.”

Kevin Lopez, telecom manager, Grant Thornton

technology that complemented our environment and made business sense.

We passed on VoIP technology from Cisco, which was in the early stages of establishing a presence in the market. Our plan was less expensive and provided us with space to grow without having to replace our entire environment. Having purchased new digital phones in 1999 and 2000, we didn't see any benefit in replacing them with IP phones.

Instead, we opted to implement IP trunking in 2001, hoping for at least a 25% decrease in long-distance costs. We didn't have a way to track interoffice dialing, so the 25% was just an educated guess. We also implemented a call accounting package and E911 from RedSky Technologies to help us measure, track and report on our savings; and a phonetic directory that lets users easily locate each other.

These add-ons were reinvestments of the money we saved through lowered maintenance costs, the cancellation of local telco services and telecom cost auditing. A year after our VoIP trunking was in place, we noticed a 65% decrease in our long-distance bills, saving more than \$400,000. This financial efficiency and potential growth opportunity built confidence in the team and showed senior leadership we were aligned with the firm's goals. It gave the telecom department a contributing voice in mapping the direction of all converged technologies.

By 2003 we had a robust network, IP trunking in full swing, call accounting and phonetic operator running on our network. We followed the convergence path and implemented Avaya's Modular Messaging, a unification product for e-mail and voice mail. The technology converges two major forms of communication without increasing overall costs. Our road warriors can listen to voice mail and read e-mail at the same time over a VPN connection. Replies and requests are addressed faster and information can be shared among team members more easily.

In late 2004, we upgraded our major hubs (Chicago, New York, Los Angeles and Dallas) to the next generation of Avaya's IP systems, the S8700, but did not see any benefit in changing our phones. We gained redundancy along with better software and the ease of migration for future IP and SIP applications. For example, we can add next-generation G700 media gateways with an S8300 media server (local survivable processor) in the field that runs from the S8700, which contains the licenses and brains of the telecom system. The benefits of such an arrangement include enterprise licensing, increased call handling for voice mail calls, limited systems for programming and remote survivability if the link goes down. It also limits upgrade and hardware costs, and makes moves easier.

The year 2005 has been a resting period of sorts. Our goals have focused on a few minor upgrades, system maintenance and future planning. Our vision is to ride the VoIP wave, choosing products that will provide cost saving or business alignment and passing on those that do not —

for example, IP-only systems that require us to replace our current infrastructure and scrap our investment.

Having seen the evolution of IP and convergence products, we realize choices must be a balance of business goals, company direction and cost-saving financial analysis.

Lopez can be reached at Kevin.Lopez@GT.com.

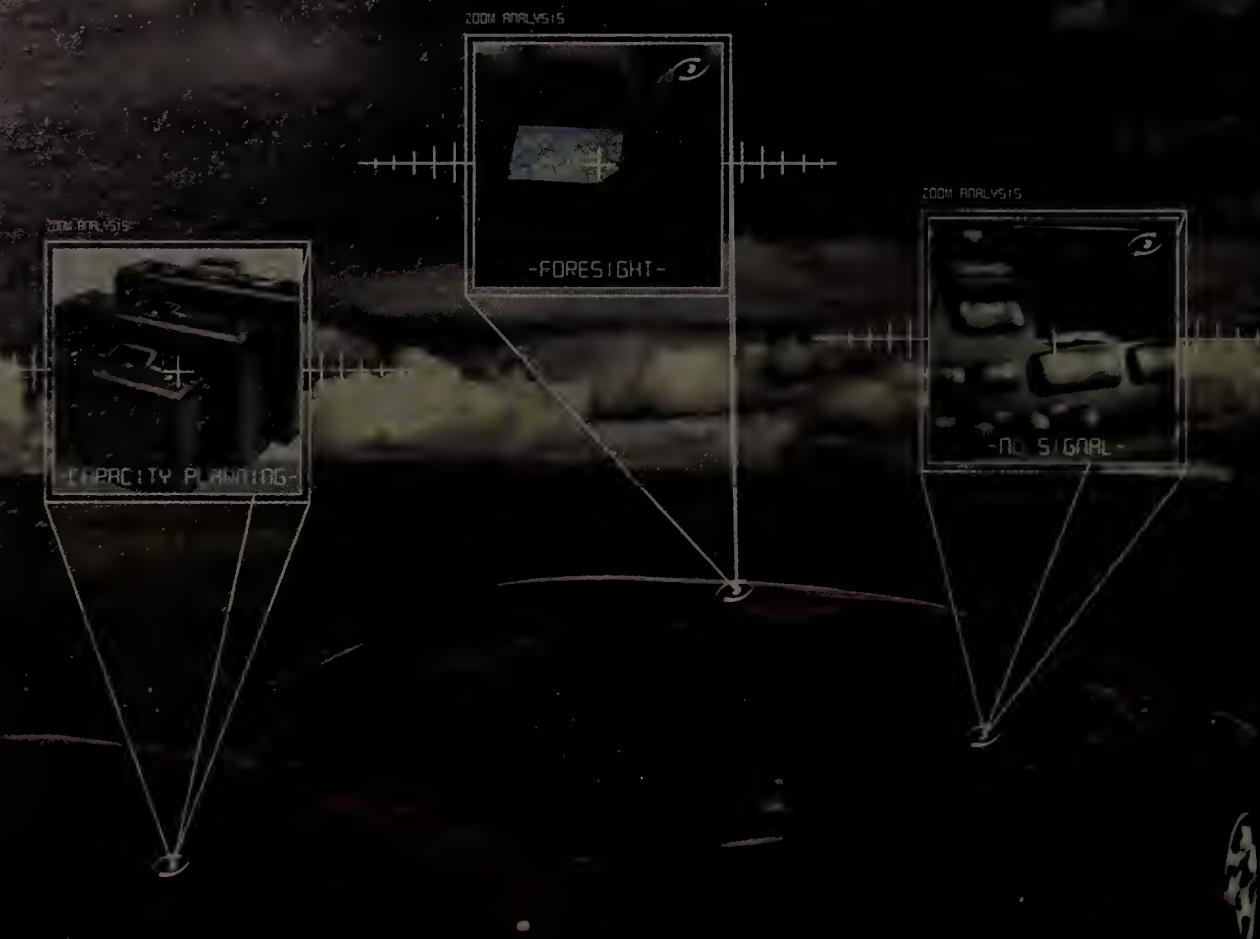
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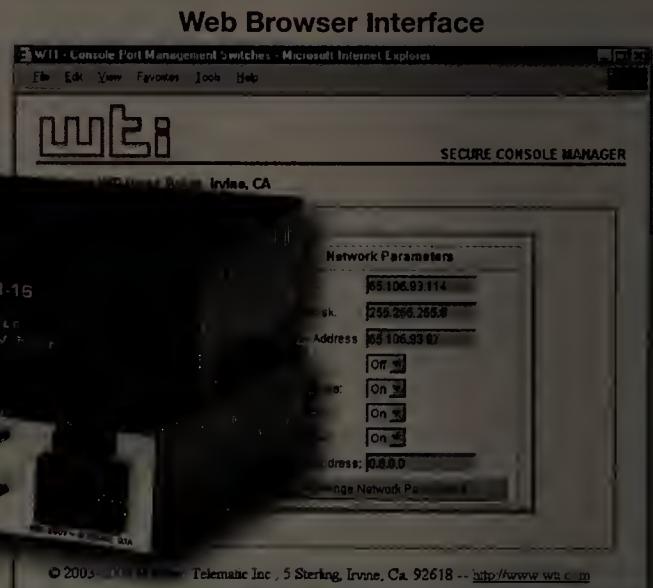
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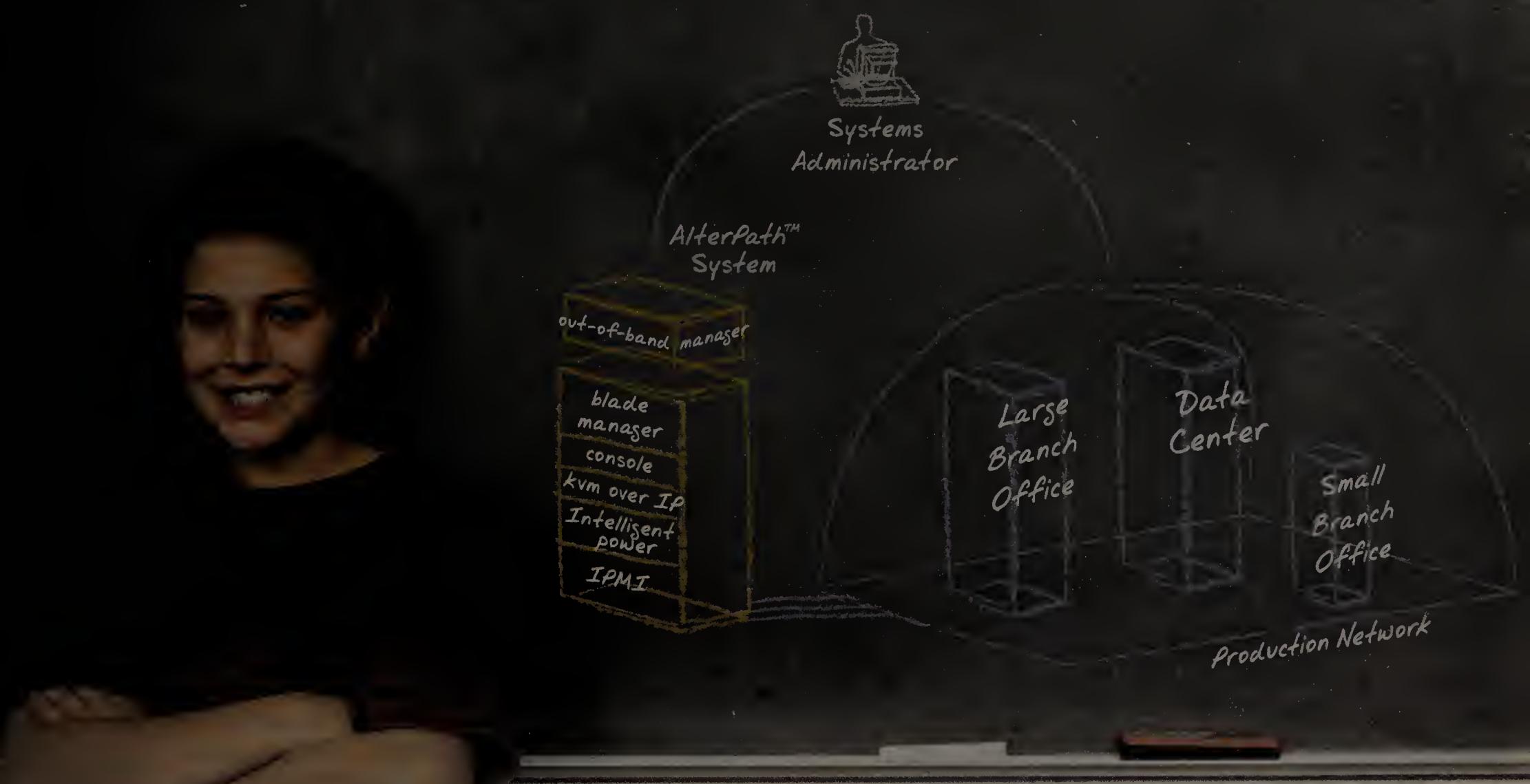
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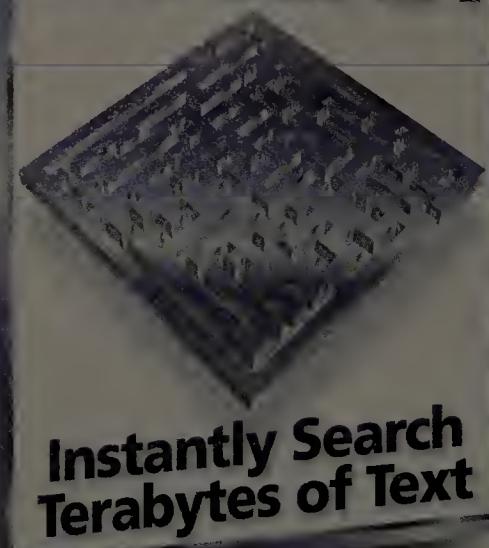
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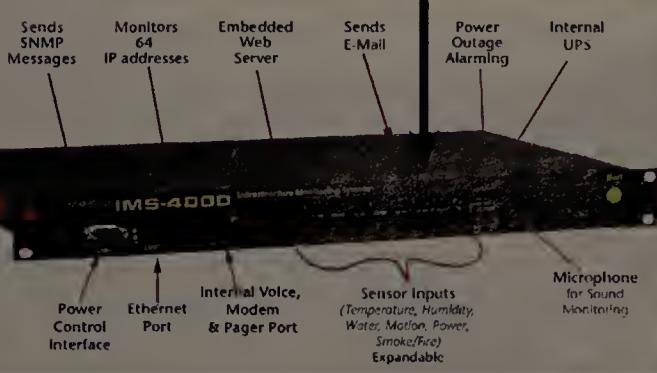
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BACKSPIN Mark Gibbs

Frankenplumbing

My house dates from the 1920s, with additions from before and after World War II. I tell you this because it explains

why my plumbing is a nightmare. In fact, last week one of the ball-cock valves in a toilet expired despite my best efforts to repair it over the previous five years.

The valve, manufactured in the 1940s by American Standard, I believe, is made of solid brass and is designed upside down — instead of connecting to a water supply pipe that enters the tank from the bottom, the valve is fed from a pipe that enters the tank from the top.

This valve is not easily replaced, but I came up with a solution: Using a variety of piping and elbows along with a ball-cock valve from an air conditioner, I created a workable replacement that I immediately classified as a fine example of Frankenplumbing.

My house is full of Frankenplumbing. There's a maze of copper, galvanized, brass and plastic pipe-work lurking under the house, and some of it is sound though much of it is decaying. And it is draped from one beam to the next and winds around and through joists. It has been cut off, capped off, welded, brazed, extended and joined.

This got me thinking. My house and office networks are also full of Frankenplumbing. I have wiring that has grown

organically over a much shorter period than my plumbing but has become even more labyrinthine. On top of that I have network services and tools that have become hard to reorganize without a complete strip down and rebuild — the prospect of which makes me shudder.

Now my network hardware and software is obviously smaller than yours, which leads me to wonder how much more Frankenplumbing we would find in your IT infrastructure? How intricate is your collection of services and connections? Do you even believe you know the full horror of your system?

The problem is if you do anything that disturbs the status quo of your Frankenplumbing your life will become much harder. Any minor change will usually break something, and major changes are guaranteed to cause chaos.

Part of the reason things break is that your network is really just an extension of your business processes and those processes are just as much a part of the organization's Frankenplumbing as the core IT systems are.

So what are you to do with your part of the mess? Nothing. There really isn't anything major you can do, because if you were to clean it up you would find that within a couple of years at most and weeks at least, whatever bright, shiny, highly organized and logical system you created would degenerate into a different but fundamentally similar mess as the one you just cleaned up!

This then is the real foundation of IT, particularly at the enterprise level: The IT group is there to fix, add to and sometimes replace the Frankenplumbing for as little cost as, and with the least disturbance to the system, as possible.

That tells you something important about the kind of people you need in an IT operation. Among all the groups, the analysts, the programmers, the support techs and so on, you want to have a fair number of MacGyvers who are happy to grapple with the Frankenplumbing and capable of using some digital bailing wire and virtual chewing gum to create a workable fix.

This quality of creativity and problem solving is much underrated in IT and separates the outstanding IT shops from the rest.

For my house, I need to find a creative and problem-solving plumber to start refurbishing the Frankenplumbing even though I know that in another 10 or 20 years the house will have to be refurbished all over again. Once my house plumbing starts getting fixed, I will be able to start refurbishing my network Frankenplumbing. Unfortunately I know that my network won't stay pristine for anything like as long as my real plumbing.

MacGyverisms to backspin@gibbs.com and see Gearblog at www.networkworld.com/weblogs/gearblog for the sheer pleasure of it.

NETBUZZ

News, insights, opinions and oddities

More might makes right

In wading through all the commentary this week about the Bush administration's dictate that the U.S. government shall retain ultimate control of the Internet's 13 root servers for as long as it damn well pleases, I found myself muttering the same question over and over:

Paul McNamara

Did anyone *really* expect anything different? . . . If so, we'll need to add a new wing onto the Naiveté Hall of Fame.

Yes, it has been a written U.S. policy since 1998 that the Internet Corporation for Assigned Names and Numbers (ICANN) and its international panel of directors would be set free of the oversight of the U.S. Commerce Department by 2006. The recent fiat — announced online two days before the long holiday weekend by an assistant secretary of the Commerce Department — does represent a direct and unilateral reversal. So I suppose that might constitute a basis for surprise in certain circles — certain woefully unaware circles.

But let's not forget that Bill Clinton was president in 1998 and Sept. 11 was just another day on the calendar.

The current occupant of the White House is famous for having bragged: "In Texas, we don't do nuance." (My personal choice for the man's most maddening utterance.)

Nor does he do international cooperation. While Bush might make a perfunctory pass at playing nice with other countries — when doing so suits his political purposes — there can be at this point in his administration no doubt as to the principles that govern U.S. relations abroad. Whether we're talking about protecting the environment, choosing a nominee to represent the U.S. before the U.N., or most especially waging war in Iraq, this administration believes in nothing as fervently as it does America's right to act alone and irrespective of foreign opinion.

And you expected them to relinquish the keys to the Internet?

The Bush administration would sooner establish a White House Debate Society and invite Kofi Annan to be its chair.

Yet the ICANN news was met with varying degrees of wonderment here and abroad. "This seems like an extension of American security in the aftermath of" Sept. 11, a

Denmark technology consultant told the Associated Press. "People will ask: 'Do the Americans want to control the Internet?'"

Do we set off fireworks on the Fourth of July?

That the decision was all but preordained doesn't address whether it was correct or not, of course. Did the U.S. do the right thing here? Even among those who expected no other decision from our government, there has been spirited debate as to whether the administration is justified in imposing its will on the Internet at large.

We'll dismiss out of hand those who carp that because the Internet was invented here we get to lord over it in perpetuity. More rational defenders of the policy reversal argue that the U.S. is uniquely qualified to make decisions governing the operation of those root servers, and that the nation has too much at stake — both in terms of security and business interests — to risk the uncertainties of international oversight. (This camp will no doubt see a vindication of sorts in last week's terrorist attack on London, tortured though that logic may be.)

Seems there are two ways for the layman to address this question:

One possibility is that the U.S. and only the U.S. can handle this job, particularly if protecting U.S. business and security interests is paramount.

The second is that the U.S. holds no such monopoly on will, wisdom or technical wherewithal, and that the international community has every bit as much at stake in keeping the Internet up and humming.

The first strikes me as an extraordinarily difficult proposition to defend — not to mention extraordinarily arrogant.

But all of this discussion about right and wrong is for naught because the question was never an open one.

There is chatter among the international Internet community to the effect that something must be done to get the U.S. to change course. They should save their breath and instead mark their calendars for Jan. 20, 2009.

A new administration, Republican or Democrat, may well see the matter differently.

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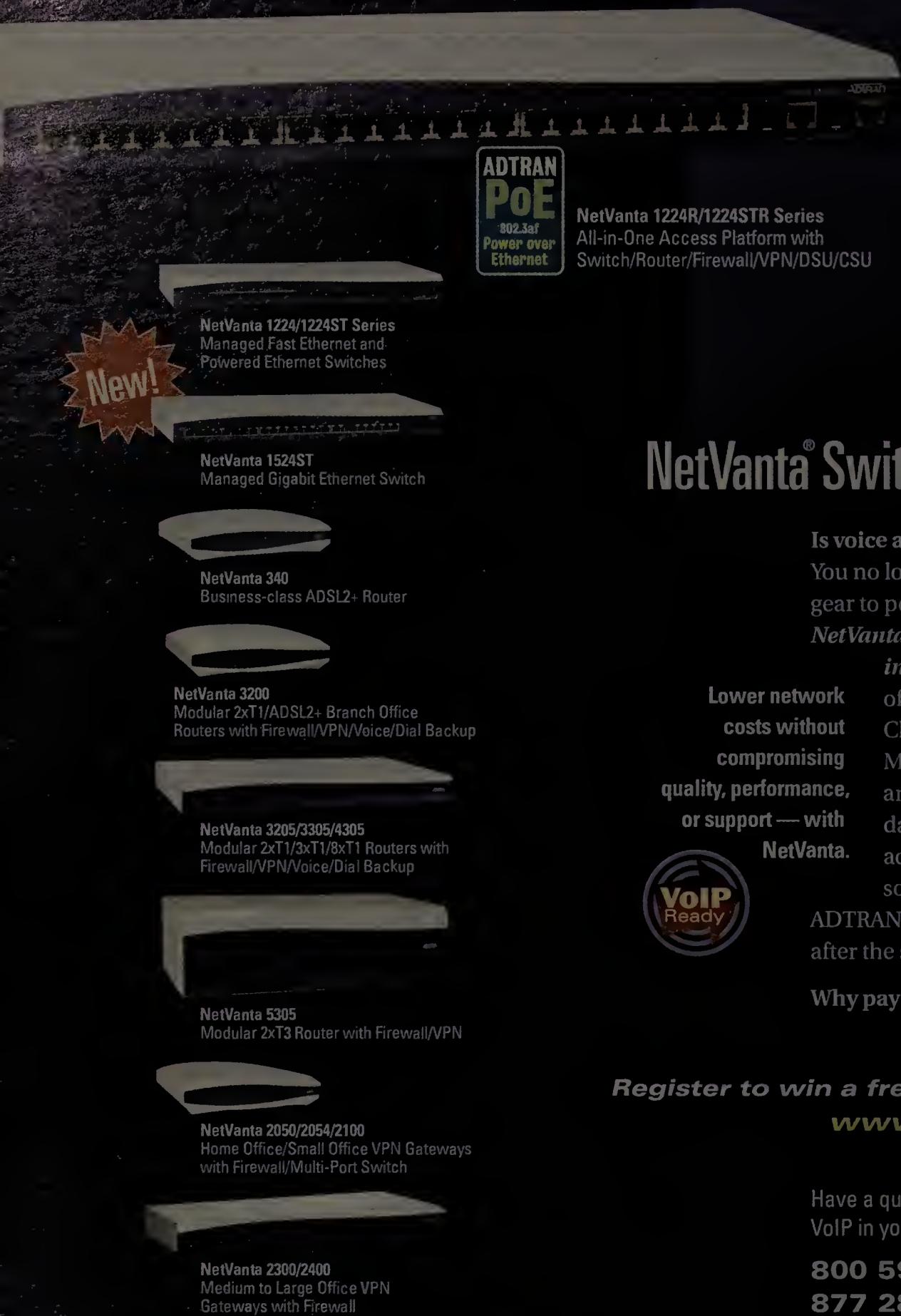
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